# CEO'S NETWORKS AND COMPANIES' PERFORMANCE: EVIDENCE FROM MALAYSIA

WONG VOON LEONG



MASTER OF SCIENCE
(INTERNATIONAL ACCOUNTING)
UNIVERSITI UTARA MALAYSIA
DECEMBER 2017

# CEO'S NETWORKS AND COMPANIES' PERFORMANCE: EVIDENCE FROM MALAYSIA

By

WONG VOON LEONG
(820210)



Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
In Partial Fulfillment of the Requirement for the Master of Sciences
(International Accounting)

Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz
TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY
Universiti Utara Malaysia

**PERAKUAN KERJA KERTAS PENYELIDIKAN**
*(Certification of Research Paper)*

Saya, mengaku bertandatangan, memperakukan bahawa
*(I, the undersigned, certified that)*
**WONG VOON LEONG (820210)**

Calon untuk Ijazah Sarjana
*(Candidate for the degree of)*
**MASTER OF SCIENCE (INTERNATIONAL ACCOUNTING)**

telah mengemukakan kertas penyelidikan yang bertajuk
*(has presented his/her research paper of the following title)*

**CEO'S NETWORKS AND COMPANIES' PERFORMANCE: EVIDENCE FROM MALAYSIA**

Seperti yang tercatat di muka surat tajuk dan kulit kertas penyelidikan
*(as it appears on the title page and front cover of the research paper)*

Bahawa kertas penyelidikan tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
*(that the research paper acceptable in the form and content and that a satisfactory knowledge of the field is covered by the research paper).*

Nama Penyelia : **DR. ROHAMI SHAFIE**
*(Name of Supervisor)*

Tandatangan :
*(Signature)*

Tarikh : 9 JANUARY 2018
*(Date)*

## PERMISSION TO USE

In presenting this dissertation/project paper in partial fulfilment of the requirements for a Post Graduate degree from the University Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this dissertation/project paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my dissertation/project paper. It is understood that any copying or publication or use of this dissertation/project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my dissertation/project paper. Request for permission to copy or to make other use of materials in this dissertation/project paper in whole or in part should be addressed to:



Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

## ABSTRACT

This study seeks to examine the relationship among CEO's networks and companies' performance. Accordingly, two contradicting theories are rooted in this study that estimates the opposing results respectively. In proportion to social network theory, some would predict a positive linkage between the CEO's networks and performance of entities; whereas the agency theory anticipates a negative relationship exist in the CEO's networks and financial performance of the companies. Derived from the measures that employed in this study to evaluate the CEO's networks effect, the empirical results for 100 non-financial companies in Malaysia suggest that CEOs with longer tenure build stronger networking and the companies with large board size are keenly looking for CEOs with an outsized social network. As well, it is observed that the CEO's networks have significant effect on companies' performance particularly sales growths in positive manner. However, neither any significant relationship can be observed between the CEO's networks and return on assets. Lastly, some facts are able to ascertain in Malaysia context for the argument that better-connected CEOs delivery value to companies performance in the course of their social network as consistent with social network theory. In future study, it is suggested to employ different and large sample size in same setting, or different site location in addition to considering different boundary condition of social ties.





**Keywords:** CEO, Social Networks, Companies Performance

## ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan antara rangkaian ketua pengawai eksekutif (CEO) dan prestasi syarikat. Sehubungan itu, dua teori yang bertentangan dilandaskan dalam kajian ini masing-masing menjangkakan dapatan hasil kajian yang menentang. Selaras dengan teori rangkaian sosial, ada yang akan meramalkan hubungan positif antara rangkaian CEO dan prestasi kewangan entiti; manakala teori agensi pula menjangkakan hubungan negatif antara rangkaian CEO dan prestasi kewangan syarikat. Bertitik tolak daripada ukuran telah diterapkan oleh kertas kerja ini untuk meninjaui kesan rangkaian CEO, keputusan empirik bagi 100 syarikat-syarikat bukan kewangan di Malaysia telah menunjukkan bahawa CEO dengan tempoh lebih lama membentuk rangkaian lebih kuat dan syarikat-syarikat dengan saiz lembaga yang besar secara giat mencari CEO yang memiliki rangkaian luas. Selain itu, adalah diperhatikan bahawa rangkaian CEO mempunyai kesan nyata terhadap prestasi syarikat terutamanya pertumbuhan jualan secara positif. Akan tetapi, tiada sebarang hubungan yang ketara dapat ditemui antara rangkaian CEO dan pulangan ke atas aset. Akhir sekali, beberapa fakta dapat dikenalpasti dalam konteks Malaysia dan berhujah bahawa CEO yang terhubung baik membawa nilai kepada prestasi syarikat menerusi rangkaian mereka dan ini selaras dengan teori rangkaian sosial. Bagi kajian masa depan, adalah dicadangkan menggunakan saiz sampel yang berbeza dan besar dalam persekitaran yang sama, atau lokasi berlainan di samping itu mempertimbangkan keadaan sempadan hubungan sosial yang berbeza.



**Kata Kunci:** CEO, Rangkaian Sosial, Prestasi Syarikat.

## ACKNOWLEDGEMENT

I profoundly owe a great debt of gratefulness to lots of people who had lent me a hand in accomplishing this study. Bearing in mind, I seize this opportunity to acknowledge the assistance of all. At the outset, it is my sentiment to express my deeply appreciation to my supervisor, Dr. Rohami Bin Shafie who in the face of being particularly engaged with his duties. As my supervisor, he gives me valuable knowledge and advices than any words that I can give him credit and I am particularly indebted to his incessant support.

I would like to extend my gratitude to University Utara Malaysia too in support of offering me a chance to pursue my master studies and to deepen my knowledge in accomplishing this study. I am also thankful for had a great opportunity to be part of the school and learning from lots of brilliant persons that I met. Particularly, special thanks to all my lecturers and friends for their helps and support throughout my study.

At last and foremost, countless of people were colouring my studies life but no one has been such crucial to me than my family during the pursuit of master. I must convey my gratitude to my parents, and especially goes to their unconditional understanding, guidance and love. This study is dedicated to their sacrifices devoted to rise and taught me a great deal what a life is about. I am in my family's debt for their incessant source of love and inspiration.

**Wong Voon Leong**

**December, 2017**

TABLE OF CONTENTS

## LIST OF TABLES

**Table** **Page**

## LIST OF FIGURES

**Figure** **Page**

## LIST OF ABBREVIATIONS

| | |
|---|---|
| **CEO** | Chief Executive Officer |
| **Duality** | CEO Duality |
| **GDP** | Gross Domestic Product |
| **IOB** | Independent Directors of the Board |
| **LEVERAGE** | Debt Leverage Ratio |
| **LOGASSET** | Natural Logarithm of Total Assets |
| **LOGNW** | Natural Logarithm of CEO's Networking |
| **LOGSG** | Natural Logarithm of Sales Growth |
| **MTB** | Market to Book Ratio |
| **ROA** | Return On Assets |
| **SOB** | Size Of Board |
| **TENURE** | CEO Tenure |
| **VIF** | Variation Inflation Factor |

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of Study

Does a social network have an effect on the companies' performance? And if it so, it is relevant to further predict: how do the social networks of a key executive director in a corporate such as connected chief executive officers (CEO) will be at the company stage? Common belief proposes that CEOs regularly hold their position embeddedness via the course of personal relation instead of vivid performance in career area (Fracassi & Tate, 2012). A favouritism pattern of CEO appointment course in this relations manner sometime raise some concerns of intimate threat which conflict with best practice in director nominating process and undermine the strength of corporate governance (Ferris, Jagannathan & Pritchard, 2003; Fich & Shivdasani, 2007; Fracassi & Tate, 2012; Hwang & Kim, 2009; and Kramarz, and Thesmar, 2013). In contrast, such network of key executives also values added to the company performance in the way of shaping a valuable conduit to access key information and resources (Cohen, Frazzini, & Malloy, 2010; Engelberg, Gao & Parsons, 2012; Fang, Francis & Hasan, 2012; Hochberg, Ljungqvist & Lu, 2007; and Lacker, Eric & Wang, 2013).

Accordingly, this study seeks to initiate an empirical study to verify whether a common belief concerning CEO's personal relations is merely an idea possible be perceived as the trendy fallacy or perhaps it, in fact, a vivid expression to the actual state of affairs. Specifically, this study aims to

identify in which situations the boards consider that it is imperative to appoint better-connected CEOs who attached with sound networks and whether the board composition in the least has some weight on the social network attributes of CEOs being appointed. Eventually, it is the key concern of this study go further to identify whether the social network of better-connected CEOs indeed values adding or cost to the detriment of companies. The answer to these inquiries highlights the imperative concerns toward shareholders' interest, corporate governances, institutional composition, and incentive measures among the board and companies.

On the account of their headship function and unique attributes, it is unquestionably those CEOs who act as key person in fact occupied a strategically significant position of exerting critical influence to drive every piece in the operating environment work in concert seamlessly with the aim of pursuing desirable performance (Adams, Almeida & Ferreira, 2005). Preceding studies have long presumed that CEOs post heterogeneous compensations and successions that map to the performance of companies (Fang et al., 2012; Hubbard & Palia, 1995; Hamid, 1995; and John, Robert & David, 1999), however, few of the concerns have drawn to which specific attribute of CEOs is significant to companies' performance or such attribute is regarded valuable in the eyes of board committee in seeking a suitable CEO candidate. One of the critical personal attributes of CEOs that rarely focused is the subject of study that is personal social networks of CEOs.

Social networks is a term of occurrence that has lashed across business domain in recent decades (Katz, Lazer, Arrow & Noshir, 2004; Kramarz, & Thesmar, 2013; Plickert, Ct, & Wellman, 2007; and Subrahmanyam, 2008). However, in spite of its latter-day credentials, social networks in favour of business activities are rather a fresh phenomenon. The notion of building personal social networks and trigger accessed to potential information base via keenly 'networking' is a long subsisted practice. The circulate byword 'the matter is "who you know" rather than "what you know" has been frequently cited in the framework of network development (Hochberg et al., 2007; and Plickert et al., 2007). It is a fair reflection of affairs connected to the notion that individual affiliations and ties arrive at the kernel of business.

At present, social networks meant for business are significantly in trend. Social networks have growing seized greatly concern of scholars and practitioners as regards its potential act as new means to improve company performance (Fang et al., 2012; Shivaram, Venkatachalam, & Kotha, 2003; Hochberg et al., 2007; and Larcker et al., 2013).

In Malaysia context, social and business connections are a core facet of practically the entire economic activities. Similar to the institutional background of emerging economy in the Asian region, Malaysia principally hinges on relation-based network governance in which the majority transactions were rooted in personal or implied agreement (Gomez & Jomo, 1997; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999; and Gui, 2006). Personal covenant among parties in the market that derived from their

reciprocal relation sometimes is more influential than formal procedures. Frequently, such connections act as a channel in support of interpersonal and inter-parties patronize, force, and information exchange. For instance, Hochberg et al. (2007) propose that whilst society is rooted in a multifaceted set of connections, it is the same way for companies context and in the course of keenly networking, individual be capable of promoting at a favourable position over others. The linkages among personal in such connections imply the key conduits as information is interflowed, capitals are distributed, new affiliations are developed, and present ties are leveraged.

However, the networks of the executive directors such as CEOs indeed are a double-edged sword will possibly impinge on company performance favourably or detrimentally (Adams et al., 2005, Harfod & Li, 2007; and Kramarz & Thesmar, 2013). In spite of the sizeable studies concern on social networks; the evidence regarding whether such connections improve company performance is varied. In accordance with prior literature, the consequence can be derived from two foremost bases (Kramarz & Thesmar, 2013). At the outset, the "Social Network Hypothesis" suggests the personal relationships can constitute proxy for improved company performance (Cohen et al., 2010; Fang et al., 2012; Hochberg et al., 2007; and Lacker et al., 2013).

A sound linked CEO being exposed via weak ties to the varied group of people, resources, and information framework. CEO is capable of leveraging their network positions to facilitate assess for the networks with the aim to support efficient transfer of know-how, technology and

information flow (Hochberg et al., 2007). Consequently, a company with well-linked CEO possibly will experience arise in company performance. In contrast, the "Agency Cost Hypothesis" (see Fich & Shivdasani, 2006) states that directors who attached several relationships are inclined to be overcommitted and often related to the underperformance of corporate governance and weak keenness to company performance. Also, excessive freedom and supremacy of CEOs position may leverage the networks to self-benefit result in agency cost and harmfully impact the performance.

Even if scores of hearsay myths and recent studies of scholars have further proposed positive values of social networks, still, it appears to be a difficult task to establish, refute, or epitomize the connection among social networks and companies' performance.



Hence, this study seeks to keep on this strand of the query by examining which of the foregoing two contradicting hypotheses dominates in Malaysia context. Malaysia poses numerous distinctive features that lead it principally fitted to examine the influence of networks on company's performance. At the outset, the perceived nature of the relation-oriented economy in Malaysia suggests that the value of networks is expected to be prevailing than in the market based structure in Western nations (Gomez & Jomo, 1997). Next, large and family-owned companies are common in Malaysia market wherein top families' groups were worth of majority portion of Malaysia's gross domestic product (Haslindar & Fazilah, 2011). Finally, Malaysia similar to other Asian economies is regularly marked as cronyism

structure and severe evidence imply that politicians employ their influences to appoint or serve for the benefits of intimate relatives and friends (Gul, 2006). Thus, this study is specifically initiated to examine the networks of CEOs under the theme of listed companies in emerging economy namely Malaysia and identify whether such networks shape a value adding or damaging to company performance.

### 1.2 Problem Statement

In this study, the underlying problem to be studied is: "what is the value of CEO's networks in a company?" There are an argument and doubt in examining the determinants and the implication of CEO's networks to the performance of the managed company (Farrell & Whidbee, 2003). Attempts to study in which situation the board will regard it is crucial to seek a CEO with better-tied networks in a selection process and whether such social ties delivery advantage or indeed a detriment to company performance is urged to be inspected (Fan, Wong & Zhang, 2007; and Mather & Ramsay, 2007). Despite several common beliefs and empirical studies in recently advocated the constructive values of social networks, yet, an effort to examine, ascertain or typify the relationship between the networks of an executive director and companies' performance indeed a difficult task.

Moreover, top-level executives of a company in a position engaged in the far-reaching and multifaceted connection of social networks (Adams & Ferreira, 2003; and Cai & Sevilir, 2012). Instead of the formal boardroom, CEOs and executive director are greatly networked via charity foundations,

golf club, chambers, and political parties (Cohen et al., 2010; Fan et al., 2007; and Plickert et al., 2007). To this, it is relevant to examine: what are the determinants of CEO's networks and its implication on performance.

Sizeable evidence in above studies has been established that the networks of CEO exert influence on company context in various backgrounds such as compensation level (Bulter & Gurun, 2012; and Horton, Yuval & George, 2012), CEO turnover (Kramarz & Thesmar, 2013) or corporate governance (Brown et al., 2012). A little contemporary studies were particularly concerns the relationship of CEO relations with key decisions and economic outcomes. For instance, only few emerging studies recently focused in the site of the United State (US) and United Kingdom (UK) both support such CEO's networks shape a noteworthy power on firm values and companies performance (Adams et al., 2005; Fang et al., 2012; Fracassi & Tate, 2012; and Kirchmaier & Stathopoulos, 2008).



From it, comparatively few studies, particularly focus in emerging economies such as China (Fan et al., 2007), Korea (Nam & An, 2017) and Nigeria (Oyewale, Oloko & Olweny, 2016), are known regarding the possible value of CEO's social relations in driving the key decision-making and company performance. In Malaysia, there has no study to measure the CEO's networks and listed companies' performance. The value of CEO's networking to smooth the progress of economic exchanges is further apparent in emerging countries like Malaysia on the account of extensive extents of market deficiencies, existence of institutional vacancies, and the

political influences as the key market forces (Li, 2005; Haniffa & Cooke, 2002). Severe researches in the strategic management and organization areas employing input from emerging economies such as China have documented that networking connections with politicians and director interlocks contribute to enhanced performance (Gao, Xu & Yang, 2008). Accordingly, top executives of companies in developing economies keenly build and expand networking ties with powerful politicians, bureaucratic representatives, and society figures to assure superior access and ease the smooth transfer of resources, know-how, or information in support of the activities performance for companies (Gao et al., 2008; Fan et al., 2007).

To furnish some insight about the value of CEO's networks in Malaysia, it is critical to examine of the history of political, economic and societal environments since it shape an intense forces on companies' practices. La Porta, Lopez, Shleifer and Vishny (1999) asserted the execution of New Economic Policy (NEP) as well as Industrial Coordination Act contribute to value of social networks in overcome the uncertainty in Malaysia. Such phenomenon prompted the important as regard with proper utilization of the key executives' networking especially CEOs in substitute of legal and institution loopholes in Malaysia (Stephen, 2012). The networks of CEOs are crucial to assist business growth and venturing in Malaysia (Tan, 2008).

In fact, a study of social networks is rather an unmarked topic. Over past several decades, there was growing interest at the glimpse of investors, practitioners, and scholars being concerned on the theme of social networks

and probed into examining the influence of social relations and personal connectedness in company context (Coleman, 1990; Fang et al, 2012; Granovetter, 1985; and Subrahmanyam, 2008). Some has focused their study to examine the relationship between corporate governance measures as the predictor to assess the networks' strength of directors and top executives in the boardroom. Nguyen-Dang (2012) assert that CEOs with longer tenure tend to form powerful networks base and secure her position. Yermack (1996) observes large boards are likely to embed right CEOs in office such as equipped with better connection background. The same result is true in Brown, Gao and Stathopoulos's (2012) study. Yet, Subrahmanyam (2008) has established a linkage between board independence and networks.

However, the majority preceding literature primarily examines the consequences of boards' network to the corporate governance aspect in term of "interlocking". Accordingly, the scope of "interlocking" is more concerning on existing relationship of external directors and often highlights the possible setbacks of such relationships (Fich & Shivdasani, 2006; and Fracassi & Tate, 2012). However, it ignores other connection such as weak ties and prior linkages which serve as critical information intermediary among difference clusters and more significant than strong ties in enabling the transfer of key information from wider networks (Granovetter, 2005).

Hence, the discussion concerning the networks of CEOs gives rise to an imperative question worth to be scrutinized. Often, the nature and consequence of directorial networks on company performance are vague

and mixed, conditional on the focus of the research. Fundamentally, the directions of research query on the subject of the networks can be divided into two branches: i) whether the networks of CEO delivery advantage to the company or ii) it indeed charge a cost?

In term of advantage, the social capital researchers assert that social relations between the directors and top executives do delivery benefits to the company seeing that executives enjoy prestige in building personal ties and such networks act as conduit that stimulates the pass of entry to a wider flow of information exchange at minimum cost, expertise, innovative practices, and enhances its credibility, impact, and promptness (Cohen et al., 2010; Hochberg et al., 2007; and Lacker et al., 2013). For instance, Adams and Ferreira (2003) observed the networks furnish executives an advantage to seize opportunities, handle threats, and enhance decision making.



In term of detriment, few researchers hold agency hypothesis proposes that CEO's networks are weakening corporate governance practice seeing that agency costs emerge as a conflict of interest by assuming the managers who have unrestricted power will pursue of their own benefits. For instance, some evidence implies that substantial director connections particularly related to CEOs are positively linked to the favoured nomination, excessive compensation, poor governance and loss-making merge (Fracassi & Tate, 2012; and Kramarz & Thesmar, 2013). Also, better-connected directors perhaps linked to busyness and value-destroying activities such as corruption (Ferris et al., 2003; and Fich et al., 2007)

This study, thus mainly concentrated on the study with regard to the networks of executives that are: what are the relations among the CEO with the board members in the same company or across boardrooms, and the consequence of networks on the performance of companies in Malaysia.

### 1.3 Research Questions

Given the relation-oriented background of Malaysia setting, the networks are the imperative facet to facilitate economic exchange and influence business operation. Explicitly, this study strives to address the following research questions which including:

1. What is the relationship between CEO tenure and the networks of CEO of Malaysian listed companies?
2. What is the relationship between board size and the networks of CEO of Malaysian listed companies?
3. What is the relationship between the networks of CEO and sales growth in Malaysian listed companies?
4. What is the relationship between the networks of CEO and return on assets in Malaysian listed companies?

### 1.4 Research Objectives

This study utilized company level data in Malaysia context with the aim to seize an apparent depiction of CEO's networks across these companies.

Explicitly, a study is initiated in this study empirically examine the consequences of CEO's connectedness on key decision-making and economic performance. Thus, the study has outlined following objectives:

1. To examine the relationship between CEO tenure and the networks of CEO of Malaysian listed companies.
2. To examine the relationship between board size and the networks of CEO of Malaysian listed companies.
3. To examine the relationship between the networks of CEO and sales growth in Malaysian listed companies.
4. To examine the relationship between the networks of CEO and return on assets in Malaysian listed companies.



## 1.5 Significance of the Study

Justified in the research value, the study in examining the networks of executives particularly CEOs with regard to company performance is perceived relevant to policymakers, reporting users, interested researchers and foreseeable concerned parties. Explicitly, this study is imperative both facets in theoretical and practical as outlined in below.

### 1.5.1 Theoretical Significant

Broadly, this study devotes to extend accounting literature on the current body of knowledge in relating to the networks of CEO from two means. Initially, this study suggests a new method for measuring the networks in

emerging economic particularly Malaysia which derived from the personal background of candidates serve in directors board of listed companies. Such method permits a way to gather the fairly sizable sample of Malaysian companies in favour of this study and to get rid of any clear and detailed relations ties will disturb the expected results.

Also, such method indeed is a fair reflection of unique relational pattern in Malaysia context. In view of that, this study thus pursues the suggestion of Kramarz and Thesmar (2013) to consider the weight of putting the CEO, rather the board as a construct variable of social network analysis. Concurrently, it also deepens the scope of recent accounting literature that furnishes evidence as regards the particular board or companies' feature which shape the choice of CEO in term of personal social connection structure (Adams et al. 2005; Allgood & Farrell, 2003; Fracassi & Tate, 2011; John et al., 1999; John, Nandu, & Schloetzer, 2010; Harford & Li, 2007; Larcker et al., 2013, and Lu, 2007).

Next, as discussed in the foregoing section even the networks have been examined widely in the literature yet the measures are somewhat restricted to board or existing relationships. This study is assumed theoretically noteworthy in this regard as it proposes new measures of the CEO's networks. With employing on an original and more inclusive measure of the social network, it is expected to be able to assess the consequence of CEO's networks much more specifically than the earlier researches.

### 1.5.2 Practical Significant

As outlined in the problem statement, this study is expected to some extent contribute a practical substance in the context of Malaysia. An examination of this study on the influence of CEO's networks and to company performance will offer practical implication via performing the unique case study in the setting of Malaysian background. From the empirical analysis, this study is expected will furnish some shred of lights and added guidance in support of policymakers and regulatory authorities, particularly Malaysia and other emerging nations. Key practical lessons can be seized via taking into account the influences of CEO's networks to company performance. These inputs can be aptly tailored by regulatory bodies with the aim of enhancing existing corporate governance mechanism.

Another contribution of this study is verifying of a relative positive implication of CEO's networks on company performance in Malaysia context. Such result replenishes the gap of related studies in emerging markets and thus enriches international evidence as regards the value of networks in existing literature (Fracassi & Tate, 2012; Karmarz & Thesmar, 2013; and Plickert et al., 2007), and deepen findings from the US and the UK (Cohen et al., 2010; and Larker et al., 2013). The observed findings are compatible with related studies of Adams et al. (2005) and Cohen et al. (2010) by establish the company seizes benefits from the connected CEOs.

## 1.6 Scope and Limitations of Study

The scope of this study emphasizes the networks of CEO in Malaysia. Using an inclusive measure of CEO's networks, this study sought to convert myth about the networks value into evidence on its significance in the company's decision making, and its eventual consequence on company performance. Thus, the scope of study can be divided into two specifically diverse focuses. At the outset, this study seeks to identify the determinants of CEO networks, thus in what situation the boards deem it is crucial to find a connected CEO. Second, this study goes further to examine how the networks of CEO influence the company performance.

One of the most evident limitations of this study is the cross-sectional design. As a result, definite conclusions regarding the directions of relationship entailed in our models would difficult to be underlined. Hence, relationships between variables ought to be interpreted with watchful. Similarly, analyses of models utilizing two-stage regressions modeling also have no verification of relationship direction.

Another limitation of this study is the selected sample merely focuses to top 100 non-financial listed companies according to their market capitalization. Such sample is a fairly small amount of the total population of listed companies. Hence, a study with larger sample size is much preferable to enhance generalization and validate the findings in this study.

Next, a limitation of this study is data gathering was confined to one site which is Malaysia. Due to the difference in the setting, the results of this study would not be applicable or fairly reflect the situation in other nations. For instance, the findings may not reflect the situation in the US setting.

## 1.7 Organization of Study

The remaining of the study is arranged as following structure: the next section reviews the preceding literature on underpinning theories: social networks and agency theory related to the topic of this study with some discussion of key variables, while Chapter 3 outlines the methodology design of the study and develops the corresponding hypotheses on the construct of interests. Chapter 4 describes the data and presents the results. Also, the related findings are discussed in this chapter as well. Chapter 5 concludes and summaries the key findings in accordance with research objectives. The noteworthy of these findings and their implications are addressed. Also, some limitations of this study are being examined. At the end, some suggestions for future study are highlighted.

## 1.8 Chapter Summary

This chapter offers an outline of the study with underlining the background of the selected topic, a statement of the research problem, research questions and objectives, significance in the study and follow with the scope and limitation of the study. Lastly, this chapter delineates the structure of the following section in the study.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter furnishes a review of prior literature on the subject of networks and its implication on companies' performance. Explicitly, it offers insights into the subsequent subjects: social networks, social networks definition and measurement, determinants, CEO's networks, networks in Malaysia, the consequences of networks on companies' performance, with some critical review of related studies. This chapter is ended by reviewing on underpinned theories in which the hypotheses and analyses of this study.



## 2.2 Social Networks

The social network theory was initiated and prevailing in late 1980an which seek to explicate the value of a social network to facilitate the key market actors in acquiring the needed resources from accessed networks. In line with Katz et al. (2004), a social network is a common manner where a group of actors or nodes are linked through a set of social affiliations, linkages, or a particular form of ties. The word "network" is commonly referred to the arrangement of ties between the actors within a social structure (Granovetter, 1985). Such theory, alternatively, synthesizes the conception of personal relationships into business exchange equation. In social network studies, an entity that their network being examined is addressed as "ego", whereas the entity that links with the ego is addressed "alter". Thus, the social network is

also generally perceived as a means in favour of assuring importance resources from alters. The social network is principally typified as personal links and relations in social composition (Granovetter, 2005). The ties such as friendship, educational background, or social activities are imperative in the social network as it constitutes a base to uphold and nurture the networks (Cohen et al., 2010). Members in similar network interact with each other to follow the same norms of such network they willingly access.

### 2.2.1 Social Networks Definition and Measurement

Business transactions and activities are intimately attached to relationship networks of interpersonal connection. In our common ideas, the definition of "networks" or "connectedness" is fairly complex and subject to several interpretations. In basic, a network is composed of a set of actors in conjunction with a collection of ties of the specific form that connect each other (Katz et al., 2004). In social networks studies, actors are frequently referred to persons or groups of entities and the ties intersect via shared structures to outline the conduits that directly or indirectly connect the actors in the networks. The manner of network ties interlinked forms a particular arrangement, and actors held certain positions in this network. However, to quantify and measure such sociology conceptions in empirical research entails certain specific definitions. Accordingly, it is observed that different studies use diverse methods in their study to measure the social ties.

As general rule, the majority of scholars often proxy the connectedness via merely computing the board seats or interlocks (Ferris et al., 2003).

Nevertheless, such manner disregards the characteristic of social connections. However, the network transmutations in fact could encompass long-contacting wave effects across the intact directorship network by means of both prior and existing connections. Instinctively, network transmutations of directors or companies with greater connectedness networks prompt outsized, far-arriving spread effects. It makes such complicated network quality conception be capable of empirically invented as a random connection across the board's network, as the stable probability distribution among actors (Fracassi & Tate, 2012).

A number of studies that assume more advanced approaches, however, are inclined to crack down on simply active relationships in interlocking directorship networks (Larcker et al., 2013). However, this method possibly ignores valuable information founded in: the sizeable time-series mutation in such network, prior connections, and the characteristics of directors. Similarly, Feyen (2014) adopts two diverse viewpoints to compute the time variation of companies network quality rooted in the random walk approach: the level to which the companies: is better-connected to other boardrooms via directorship interlocking or 2) has better-connectedness directors on board, employing every access network information. However, Horton, Yuval and George (2012) claim the interlocking only focus on existing ties of independent directors. This is a common gap in the interlocking studies.

In the study of Zajac, Edward, and Westphal (1996), a clear social network measures were developed using the demographic likeness among CEOs and

directors that rooted in career background, age, educational likeness, and interior/exterior likeness and establish that highly similarity among the CEO with the boards give rise to greater CEO pay. Likewise, Fracassi and Tate (2012) also follow the similar measures to define the cumulative direct ties of directors via the course of: current or prior employment, education background and other activities ties. Thus, this study follow the gap of interlocking studies to adopt the inclusive measures in the study of Fracassi and Tate (2012) that focus on the wider relation ties of CEO and directors to examine the implication of personal networking on companies' value.

### 2.2.2 **The Determinants of Social Networks**

Several studies have initiated to examine the predictor factors of social networks. Among of it, Feyen (2014) established that board size is one of the factors. Explicitly, the large size of boards inclined to have better connected CEOs given that larger board constitute a platform permit constitution for more richness linkages and beneficial interconnects among top executives with external directors. These connections, in turn, form a great amount of weak ties that provide CEO and directors an access to the diverse set of information and also expose them to business relationships essential to the company. Brown et al. (2012) and Subrahmanyam (2008) also asserts larger boards are more entrenched and thus apt to seek for fitting CEOs equipped with same attribute sitting in the board for a long duration.

On the other hand, the tenure of CEO served in the companies also one the determinants of social networks (John, Nandu, & Schloetzer, 2010). Social

network theory asserts that managers would develop a forceful base of social influence power across time. As days go by, incumbent CEOs began to accumulate larger connection ties and established influencing headship capacity in office (Nguyen-Dang, 2012). The value of the network enhanced with the amount of board engaged across career lifetime. Coughlan and Schmidt (1985) also observe that CEOs with short occupancy are prone to be terminated due to considered lack of calibre than long-incumbent CEOs.

Also, owing to the possible strength of CEO duality as the governance mechanism, its effects have been the concern of sizeable empirical studies. The power is the capability of a person to bypass opposition in arriving an intended result or motive (Adams et al., 2005). The status of CEO duality will offer unfettered power to the CEO. In organizational perspective, the capability to control the companies and selections of decisions also the outcomes is the base of networking power to influence others.



Some studies observed a negative relationship between social networks and independence of board assessed in forms of external directors' proposition (Fracassi & Tate, 2012). Such result is corresponding to the function of the independence directors in agency theory to oversight manager actions. Even the results are not consistent; however, independent directors are a critical element in governance practice. Following such argument, an independence voice prevents exist of unfettered power in the board.

However, there is a gap of these prior studies using the corporate governance measures to specifically study and identify in which situation

the boards will judge it is crucial to have a better-connectedness CEO, particularly in emerging economic context. Hence, this study utilizes these measures to initiate the CEO's network study in Malaysia.

## 2.3 CEO's Networks

The function of CEO's networks has been examined in a range of finance and management perspectives, however the evidence of CEO's networks in accounting performance context are relatively limited. Among of it, the key findings such as Cohen et al. (2008) has documented that the networking of managers shape information advantages which bring about notably superior performance of connected companies compared with non-connected companies. In the later studies, Butler and Gurun (2012) exhibit that the CEOs as well promoted from the networking ties with other directors in the way of gaining higher paid. Cai and Sevilir (2012) scrutinize the board networking between the companies and acquirer companies, indicating that the social networking enhance information flow in the companies, and thus deliver value to the acquirers in terms of lower premiums and superior profit creation. Engelberg et al. (2012) observe the personal ties with bankers diminish the cost of finances and establish the significant result. Also, Engelberg et al. (2012) further assert that CEO social networking is valuable assets to the companies for the reason that it enhances the abilities of CEOs' to access key resources and transfer of the best practices from the networks.

Recently, interpersonal managerial relationships have progressively turned into a key element of innovation (Gao, Xu & Yang, 2008). Consistent with

social network theory, there is a linkage derived from managerial relations forming social capital and thus influencing the company's performance. Managerial relations are referred to interpersonal ties of executives such as CEO with external parties. Explicitly, the interpersonal connection is act as a key source in support of knowledge exchange and information flows for innovation literature (Katz et al., 2004).

Scores of studies also established that managerial relations shape significant consequences on companies' strategies and deemed as the driver of innovation (Gao et al., 2008). Social networks are imperative to assist companies to obtain needed resources and key information which drive the companies to stick to innovative stream on the continuous basis and to launch new offerings and attain desired performance. Managerial relations are particularly prevailing in emerging nations, given that the 'institutional voids' compel top executives to hinge on personal connections to obtain social support in replace of institutional support. Prior researches have indicated that managerial relations result in improved performance of companies in emerging economies (Gomez & Jomo, 1997).



Plickert et al. (2007) asserted that social capital eases the know-how acquisition and development via impinging on conditions needed for value creation by means of the transfer and amalgamation of intellectual knowledge. Given the acquisitions of intellectual know-how are principally involve social process; a social network viewpoint regards such managerial relations are essential to perform as a channel of knowledge transfer. Given

the technologies progressively intricate, and implied knowledge is exchangeable only via the course of massive interpersonal interflows, direct relations among organizational executives are critical for effectual learning.

Appear as the key executive personnel, CEOs would exert a decisive function in knowledge transfer (Gao, Xu & Yang, 2008; and Li, 2005). Accordingly, managerial relations may assist in gaining new knowledge enhance companies' competitive position against the competitor. In emerging economies context, the connections among people perhaps more important given that it furnish access to reliable information, as relations are developed from a social framework of duty and trust, such information is considered dependable if compared to information from other sources.



**2.4 Social Networks and Company Performance**

Prior evidence has been established how the constructed connections between the personal network and business activities are shaping company's performance (Adams et al., 2005; and Cohen, Frazzini & Molley, 2008). Recently, the social network has been employed in dyadic network studies as the dependent variable of company's performance (Adams et al., 2005).

According to Adams et al. (2005), the economic concerns as addressed by social networks furnish new performance measures in relation to business expectations. This implies a relationship among the strength of personal connection in a network have an effect on the business activities and the company's performance. The idea of network capability shaping the

consequence of business activities is defined by Hochberg et al. (2007) as a particular attribute of companies and viewed in two constructs that is task implementation and criterions. The outcomes of the comparable study also reveal how the network capability directly connected with the market context and entire performance of company (Cohen et al. 2010; Hochberg et al., 2007; Granovetter, 2005; Plickert et al., 2007; and Shivaram et al., 2003). The dyadic attribute of social network where the perspectives of actor are varying thus signifies a challenge for academics in searching a quantifiable manner via simple analytical research to study actor's constructs. Cohen et al. (2010) describe the effect of networks on company performance as "the observed financial outcome of the collective acting network parties, in relation to the expectations in network".

Present evidence as regards the value consequences of social networks is diverse or mixed, conditional on the direction of study. Such phenomenon is not unforeseen given the influence of interpersonal networks on a company is vague. On the one hand, better connectedness directors and companies occupied a favourable position and gain the superiors access to promptly information flow, knowledge exchange, best practice transfer, or social support which offer them a privilege to exploit new opportunities, handle threats, enhance internal process, and enforce contracting in continuous base (Katz et al., 2004). Accordingly, network connections come into view adding value to the companies via smoothing the progress of information flow in several cases like: merger and acquisition (Cai & Sevilir, 2012; Fang

et al., 2012), funding investment (Cohen et al., 2008), expert comments (Shivaram et al., 2003), and commercial investment (Hochberg et al., 2007).

Whereas the foregoing advantages have been highlighted, some studies have recognized problems with networking in the board. For example, network connections also seem to undermine corporate governance, causing about manipulations in director nomination (Fracassi & Tate, 2012), CEO turnover results (John et al, 2010), and company investment (Hochberg et al., 2007). As well, numerous latest researches assert that network relations via interlocking bring about self-beneficial behaviour in term of higher compensation (Brown et al., 2012; and Hwang & Kim, 2009).

Connected boards also might bring about the value-destroying business behaviours. For instance, the backdating of stock options is more widespread in companies with connected boards (Feyen, 2014). Equally, shared identical information sometimes also cause companies repeating faults in operating practices and strategic judgments (Hwang & Kim, 2009), or duplicating practices that is notoriety, like earnings management (Burns & Kedia, 2006). Also, the networks have weakened the corporate governance (Fracassi & Tate, 2012). Brown et al. (2012) also observe that CEO compensation was likely to be greater and CEO turnover to be seldom as the boards are "reciprocally connected". Moreover, companies may involve in cartel conduct, collaborating on pricing and decreasing rivalry pressure which inducing considerable legitimate threats can harshly damage the companies' value once revealed (Granovetter, 2005).

One more concern of social networking that emerges is directors engaged in large amounts of boardrooms. Directors who hold too many directorships perhaps unproductive owing to excessive pressure and time constraint a director be able to share to every company. Such phenomenon is signified as "busyness" (Ferris et al., 2003; and Fich & Shivdasani, 2006). Moreover, the greatly connected companies might seize excessively information. Except for the companies are capable to expeditiously process the received information, if not the companies indeed face the threat of overloaded (Fich & Shivdasani, 2006). Excessively information could interrupt a companies' capability to perform good judgments decisive to their future strategies and bring about inferior monitoring function (Fich & Shivdasani, 2006).

However, there is little studies focus on the consequence of key executive directors' networks such as CEOs on accounting performance of managed companies. Thus, it appears as a gap to be filled by this study.



## 2.5 Critical Study of Related Studies

In recent times, one strand of the literature surfaced that centred on studying if the social networks subsist and common within company boards. For instance, Davis, Fama and French (2000) examine the composition of the business leaders' network in the site of the US for the period of prior two decades. The study is focusing on the level of clustering, the extent of the ties linking any related directors, in addition to the constancy of the studied network. The findings discover a notable steadiness of the network across

the duration being studied, in spite of extensive transforms in the character of industrial banks and corporate governance regulations impinge on the boards. An elimination of the crucial market actors, for example, bankers from the network still not cause any change to the general features of such network. The results of their study as well examine a high extent of clustering and short path-spans in several measures of a "small world" event in the board of the company. The study establishes that networks come into view to be collective, and influence the entire level of the US companies.

On the other hand, Cohen et al. (2008) employ the term of 'affiliation' networks. Such term refers to the networks differentiating among personal and boards among diverse forms of social parties, to ascertain is the small world phenomenon be real on the directorates. It denotes the situation on one occasion a group of board members could be examined that is corresponding tied with one another; in addition to pose the sound linkages to other clusters. Rooted in inputs from the site of European and the US, the study asserts that a "small world" consequence is outlined more owing to the choices from some instead of all members in the boards to assign modest to great amounts of interlocking individuals seat on the boardrooms, and not with the case where some interlockers looking to land on extraordinarily huge amount of boards (Cohen et al., 2008, and Conyon & Muldoon, 2006). On the other hands, their result reveals diverse results from the networks amongst firm-to-firm or director-to-director, by way of severe data in support of small world features. Such findings are corresponding to the far-

reaching strand of literature as regards the small world phenomenon that in substance verifies the subsistence of social networks among the directorates.

Conyon and Muldoon (2006) examine outsized samples for the boards and members across the site of the US and European nations. The study employs a comparable method with Mather and Ramsay (2007) to extract hypothetically expected values via the course of later weigh against to the "small world" data with not the use of random graphs. From the observed findings, it establishes that although there is small world effect presents among the boards, but no obvious evidence could be traced in support of "clubby" activities in the directorates. Explicitly, no any pattern of organized composition, no significant inclination of 'smallness' than be able predicted to observe coincidentally (Mather & Ramsay, 2007). In their findings, Conyon and Muldoon (2006) further concluded that the 'engaged' external directors can be seated in boardrooms with different directors, still has no any statistically obvious evidence of prevailing networks for CEOs.

Later, the research of Larcker et al. (2013) examines the CEO and directors' networking in term of centrality, thus the corresponding substance of the CEO with the executive boards, cause a negative consequence on the performance of companies. Explicitly, such argument points that the greater influence and magnitude the CEO exerts toward the executive boards, the fewer chance of the companies concern with performance measures.

## 2.6 Underpinning Theories

As pointed in the foregoing section, two underpinning theories are utilized in this study: social network theory and agency theory to assess the relationship between the networks of CEO and the companies' performance. This point is in line with the proposition of Popper (1959) to seek for the best fitting theory that better uphold itself in explaining observed facts in the course of competing with another theory. Notably, it is worth to note that these two theories attempt to explain the same fact and interaction of key variables from diverse perceptions. Explicitly, both of the mentioned theories are predicting a totally contradict pattern of relationship between the social connection and companies performance. Thus, it is interesting to examine which relationship predicted by the selected theories is established in the findings or both theories have their stand in the studied situation.



### 2.6.1 Agency Theory

Mainstream literature as examining the consequences of social networks, particularly board interlocking in conventional studies often has employed agency theory standpoints to examine how board interlocking effect interrelates with a variety of variables in corporate governance measures. Scores of studies under such convention attempt to validate that whether the exits of connected directors exerts a positive implication, or the emerged agency costs is indeed exceeding the value added by such social networks.

Berle and Means (1932) initially highlighted the setbacks that occur in the separation of management and ownership. To acquire capitals for the development of business activities, going public is regularly an ideal alternative owing to efficiency and cost-effective. This result in the listed companies has various ownerships. These shareholders are deemed as the principals to whom they engage in a contract relationship with executives act as their representative to operate the companies. Nevertheless, the assignment of authority may give the executive a chance in favour of opportunistic conduct, and result in principal-agent-problem.

Jensen and Meckling (1976) construct on the ground of agency problem. The isolation among management and ownership shapes an information asymmetry across the principals and the agent. Initially, the owners have to observe the manager so as to assess the managerial effort has been exerted. The manager, in contrast, has access to the information without cost may not desire to share it. Absolutely monitoring the managers are impossible and the common owners in a distributed ownership are the force to tolerance to an unawareness incentive. It signifies the investment of fund and efforts to perform informed decisions is seldom beneficial. Thus, the shareholders not often acknowledge the best option and attempt of the CEO are regularly concealed. Sometimes it is implied a moral hazard and possibly will permit CEOs to execute option promotes themselves instead of the shareholders.

Also, at time committing the contract with the CEO, the owners are incapable to perfectly assess the value that the CEO likely to be added to the

company. Likewise, after appointed, the shareholders are unlikely to perfectly monitor how good the CEO executes, and hence they have to evaluate the performance in certain manner.

To sum with, the agency theory asserts that separation among management and ownership give rise to self-regarding behaviour in managers-controlled companies (Jensen & Meckling 1976). Given the proficient of companies-related knowledge and information access, the managers are presumed to pursue self-benefits above companies' owners. They possibly will seek for behaviours which promote themselves instead of the companies' owners. Thus, the manager appears to extort personal interests to the cost of owners.

Even if agency theory is the foremost base of existing literature to explain the influence of CEO's networks on company performance, however, it often focus on the negative consequence of networks in various backgrounds such as compensation level (Bulter & Gurun, 2012; and Horton, Yuval & George, 2012), CEO turnover (Liu, 2010; and Kramarz & Thesmar, 2013) or corporate governance (Brown, Gao & Stathopoulos, 2012). From it, only few studies employ the agency perspective focus on the consequence of CEO's networks with companies' performance but mainly in developed economies such as Adams et al. (2005), Fang et al. (2012), or Fracassi & Tate (2012) and the study of Kirchmaier & Stathopoulos (2008) is working paper. In Malaysia, the study of CEO's networks on listed companies' performance is lacking. Hence, there is a gap to depict more relevant and complete value of CEO's networks in Malaysia.

Moreover, the whole outcomes of managerial networks, particularly the value adding facet are in fact neglected by the agency theory (Adams et al., 2005; Cohen et al., 2010; and Fang et al., 2012). Nor Zalina (2016) further highlights a need of utilize alternative theoretical perspective to study the unique social context of emerging economies, instead of follow the agency theory perspective that is established by the strand of studies being performed in developed economies such as the US or the UK. An alternative premise, for instance the social networks theory, also clarifies the consequence of CEO's networks on companies' performance from another side (Cohen et al., 2010; Fang et al., 2012 and Hochberg et al., 2007).

### 2.6.2 Social Network Theory

Social network theory suggests that interpersonal connections adding value to actors such as persons, entities, or society via permitting them to access into the resources attached in the networks for their advantage (Shivaram et al., 2003). The top executives of companies are able to build social capital via several individuals, social, and business relations in their constituencies that be able to make use of for the sake of their companies.

The origin of related researches concerning the consequence of social network on company governance could be traced back two decades or more, concern primarily into the phenomenon of board interlocking that is focused on the observable fact that CEOs land in one another directorates and thus construct a basic social network as the channel among of them. In line with

some standpoints, such interlocking connection is valuable seeing it leads to the distribution of innovations in the course of diverse practices and know-how are diffused among companies (Fang et al., 2012; Plickert et al., 2007; Hochberg et al., 2007; and Zajac et al., 1996). A sizeable bulk of recent studies has further probed into the strategic effect of social ties.

Often, these networks comprise individual and social relations with consumers, suppliers, politicians, authorities, society institutes. In this study, the focal point is drawn to the social capital that is formed by company's top executive via individual and social networks ties with directors in boardrooms. The social capital built via these networks connection act as channels for the conveyance of needed resources, information flow, and knowledge that can be capitalized to companies' benefits (Fang et al., 2012).



The concept that "who you know" be capable of delivery advantages is renowned. Social network theory asserts that a relationship can be essential and beneficial. As such basic theory is evident, there are studies of scholars concerning why and how exactly a social connection should be regarded as valuable capital (Plickert et al., 2007; and Hochberg et al., 2007). Explicitly, Hochberg et al. (2007) assert that the advantages of social networks are anchored in three bases. Initially, social networks facilitate the exchange of information flow among persons thus be able to lessen transaction costs. For instance, alumni from same graduation year share career information (Cohen et al., 2010). Next, social networks are capable of shape influence on others. For instance, an executive who is intimated with the boards is less

likely to be dismissed or obtain higher compensation than complete strangers (Larcker et al., 2013). Also, social supports and privilege are derived from the position in particular networks like professional title may symbolize reputation in the community (Guan, Su, Wu, & Yang, 2016).

Based on social network theory, Katz et al. (2004) assert that resources are attached to the network of connections among individuals. Such embedded resources are seized as attributes of an individual contact. These resources are instinctive and frequently readily recognizable as prosperity, influence or position (Katz et al., 2004). On the other hand, the weak ties idea of Granovetter (2005) notably underlines the significant consequences of individuals can have as they function as information intermediary among different clusters. However, Coleman (1990) envisaged the value of social networks as concerning the closeness of connections among individuals. He views the value of social networks originates from shared forces where people cooperate to attain the same goal or common norm. Explicitly, Coleman (1990) also explains such unity as "closure".



## 2.7 Chapter Summary

This chapter discusses the literature review concerning social networks and its consequence on companies' performance. Some key facets and influence factors of variables are discussed. A review of related studies also highlighted. As well, it examines the underpinning theories for the subject.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This section delineates the design of research methods of this study. Next, Section 3.2 depicts a theoretical framework that forms a base to explicate, predict and capture the construct of interest. Corresponding hypotheses are developed within the framework and discussed in Section 3.3. While Section 3.4 is briefing to the details of research designs and approaches have been utilized. Subsequently, the definition of selected sample and related data collection techniques are underlined in Section 3.5 and 3.6. Section 3.7 and 3.8 highlights the measurement of main variables. Lastly, Section 3.9 explains the techniques of data analysis. Section 3.10 concludes this chapter.



## 3.2 Research Framework

This study is strived to assess the relationship between CEO's networks and companies' attributes and outcomes, explicitly, the determinants of key executive's networks; and also the consequence of CEO's networks on economic performance in terms of sales growth and the return of assets for Malaysian listed companies. To serve this purpose, the study is synthesizing the social network theory and agency theory in constructing two models that are succeeding to establish the relationship between the networks of CEO and companies performances. Two succeeding models are adapted from the study of Fracassi and Tate (2012) given that it is predicted such model

performed better in explaining two conjoined phenomena: firstly, the dynamic of the board and corporate governance structures as the key determinant in determining CEO's networks, and next, conceptualizing the consequence of CEO's social network on companies performance.

As indicated by the figures in below, Figure 3.1 represents the phase in which corporate governance variables and corporate features form a circumstance to determine the appropriate connectedness level of CEO being selected. However, Figure 3.2 signifies the phase in which social networks of such CEO shape an influence on the performance of the managed company. Accordingly, the dependent variable of the first phase that is CEO's social networks in Figure 1 was then treated as one of the independent variables in the second phase that influencing the performance of company which indicated in Figure 2. To serve the concern of model parsimony, the study also treats the corporate governance and company specific measures in both stages as control variables.



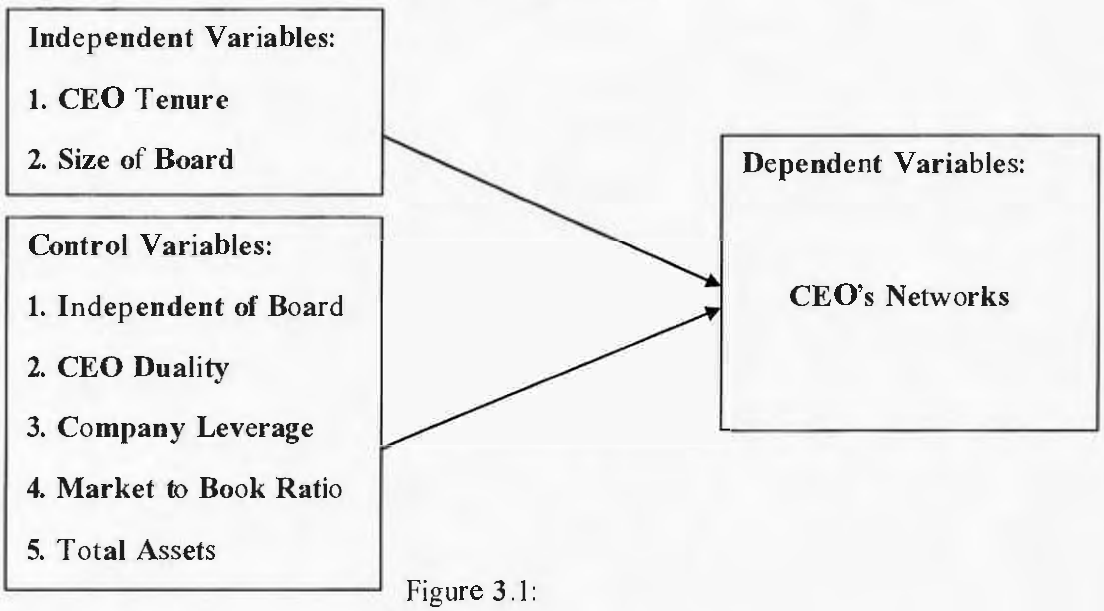


Figure 3.1:

*Phase 1 - Determinants of CEO's Networks*

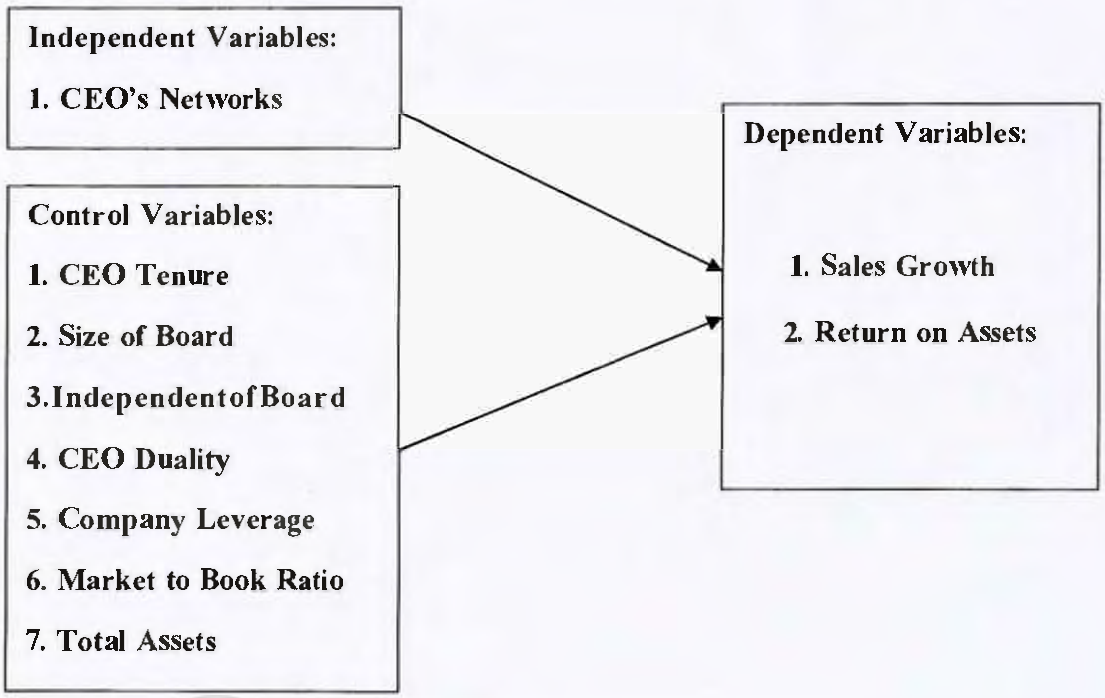


Figure 3.2:

*Phase 2 - Impact of CEO's Networks on Company Performance*



### 3.3 Hypotheses Development

#### 3.3.I Determinants of CEO's Networks

How important are the networks of CEO to their nomination process and work performance? Sociology oriented theory such as social network hypothesis asserts that top executives often land their careers by means of friends and relation ties in preference to via the course of formal career market (Granovetter, 2005). The later studies established the concept that is addressed as weak ties which fairly imperative in reaching to the valued and appropriate career positions even more often than strong ties, and a job pairing process from weak ties manner is better than public market platform (Adams et al., 2005; Allgood & Farrell, 2003; and Granovetter, 2005).

In relation to CEO networks, it is expected weak ties of executives has been cumulated thus far is much greater if the incumbent CEO being served longer in the office. Such viewpoint is derived from the suggestion of social network theory asserts that CEOs would establish a powerful influencing base across time. Yermack (1996) propose that a new CEO deal with considerable challenges at the time taking office. They are called to adapt to their new positions and promptly develop sound relationships with the members of their executives' teams, companies' directors and forceful external stakeholders. When the time goes byes, the entrenched CEOs have progressively exhibit their leadership power and set up their networking strength, the challenges were thus be sharply diminished. Comparable evidence can be observed from the study of John et al. (2010) that documented CEOs with short tenure are be inclined to be terminated as compared to CEOs with long tenure. Hence, it is predicted that the longer tenure a CEO has entrenched to the company, the stronger is the networking base has been developed by CEO.

**Hypothesis 1:** CEO with longer tenure develop stronger networking base.

Also, it is predicted that large size of boards inclined to have better connected CEOs given that larger board constitute a platform permit constitution for more richness linkages and beneficial interconnects among top executives with directors (Gao et al., 2008; and Fan et al., 2007). Davis et al. (2000) also asserts that larger boards are more entrenched and thus be apt to seek for fitting CEOs that equipped with the same characteristic

sitting in their board for long duration (Brickley, Coles & Linck, 1999). The corporate governance literature commonly presumes that larger companies often complicated in nature and hence more likely seek to have skilled and better connected executives serve in the chair (Allgood & Farrell, 2003). Sound connectedness such as interlocks would matter more for large companies that demanding value adding from fine-constituted resources in term of strong networking to offer company protection in response to externalities risks (Harford & Li, 2007). If a well-connectedness person has greater access and attaches to other well-connected individuals, this study expect to see CEO on the large and better-connected boards is also a well-connected candidate. Hence, it is reasonable to hypothesize that:

**Hypothesis 2:** The companies with large board size hire better-connected CEO.



### 3.3.2 CEO's Networks and Performance of Company

This study subsequently scrutinizes whether the CEO's networks discussed in the earlier section is endorsed with a linkage among managerial networking and growth in operating performance of company managed. As depicted in the foregoing discussion, the network of better connectedness executive enable access to valuable information base and facilitates smooth exchange of know-how as well as best practices among tied CEO and external entities, which sequentially allows the company dynamically to seek latent opportunities (Gao et al., 2008; and Hochberg et al., 2007). Seeking latent opportunities will furnish CEO the prospect to raise the company by either launching new products in the course of product

innovation or acquiring a competitive advantage in delivering present offerings via process improvement. Such enhanced novelty process will make possible new opportunities available to be exploited by companies, and a following sustainable growing of the companies' return (Cohen et al., 2008). Into the bargain, the network of a well connected CEO also enables assess to 'new doors' and promote sales. Such phenomenon has been established in the previous studies that the networks of directors, even if not the CEO shape an effect on the sales of companies that offer services to the government (Fan et al., 2007). Such as, Gul (2006) and Fan et al. (2007) have point up the way of political-tied directors has capitalized on their network to obtain contracts.

Economic activities of companies are innately entrenched in connections of interpersonal ties (Granovetter, 2005). Social network theory suggests that a sound interpersonal connection offer value-adding to key actors in such network includes individuals, companies, or societies by enabling them to reach to key resources attached in such affiliations to pursue their advantage (Cohen et al., 2010). The top executives of a company such as CEO can assemble better-built social capital that comprises the diverse set of individual, social, and business ties with their communities formally or informally that be capable of serve to the interest of their companies. These weak ties consist of individual and social connections among key executive and consumers, suppliers, rivals, politician and bureaucratic constituencies, and society entities (Baiman & Rajan, 2002; Gul, 2006; Granovetter, 2005).

Scores of studies have established that managerial connections of key executive such as CEO shape decisive impacts on companies' strategies and can be a root of innovation (Gao et al., 2008; and Hochberg et al., 2007). These relationships are critical in assist companies attain to key exterior resources and information base which allow the company of better connected executive to be persistently inventive and launch innovative offering to achieve outstanding performance. Such phenomenon is prevailing to the technology-oriented industry as technologies turn into more complicated, and transfer of implicit knowledge is only feasible in the course of closely interpersonal communications, thus direct relations among executive members are essential in support of effectual learning process (Gao et al., 2008). This study supposes that the network of executives exert key mediating function in knowledge transfer and sharing that mapping across CEO's managerial connections and company performance.



In developing economies particularly Asian nations that embedded with relation-oriented structure, the value of social networks in executing transaction exchanges is further apparent owing to the significant extents of market imperfections, the existence of mechanism deficiencies, and the influence of local government act as the foremost economic player (Gomez & Jomo, 1997). Accordingly, top executives of companies in developing economies keenly build and expand networking ties with powerful politicians, bureaucratic representatives, and society figures to assure superior access and ease the smooth transfer of resources, know-how, or information in support of the activities performance for managed companies

(Gao et al., 2008; and Fan et al., 2007). Numerous studies in the fields of strategic management were employing data from developing economies have observed that a networking attached with government officers in support of company activities bring about enhanced performance (Gao et al., 2008; and Li et al., 2005).

Gomez and Jomo (1997) observe that social capital in term of networking relations entrenched with local institutional or dispersed society structures impacts company performance. This is somewhat owing to the networks promote the transfer of social support, tacit knowledge and information that assists lessening involved transitions costs, in addition, to act as essential input for the operating activities (Gao et al., 2008; and Granovetter, 2005). Gao et al. (2008) also assessed the 'helpful' value to a company of its workers' networking relationship. Rooted in the hypothesis that the CEO will act in the same manner in promoting the interests of companies, this study thus expected that:



**Hypothesis 3:** The networks of CEO are positively significant related with the companies' sales growth.

One strand of proper-established perspective, which rooted in agency theory, underlines about a negative relationship between the networking on boardroom and company performance. Such viewpoint is derived from the hypothesis assumed that rational directors make use of the intrinsic information asymmetry seek to maximize their individual utility at the cost of owners and investors' interest. Across these decades, a considerable literature has been established

that delineates the consequence of board's networking undercut the best practices of companies' governance strength. Larcker et al. (2013), for instance, had observed that the compensation of CEOs who positioned in interlocked boardroom typically is higher as compared to those CEOs did not serve on interlocked boards. His findings also documented significant extents of interlocking in the sample encompass the outsized US companies where the proposition of interlocked companies ranges from one-fifth of the entire sample conditional on the circumscription of interlocking.

Zajac, Edward and Westphal (1996), similarly focus on UK panel, reveal that interconnecting directorships among boardrooms be inclined to heighten compensation level and lessen the turnover rate of existing CEO. Accordingly, they explain this trend as a result of entrenchment. Their study, though, was unable to verify a significant relationship among interlocking networks of directors and companies performance. The later study of Brown, Gao, and Stathopoulos (2012) also exhibit the overwhelming managerial power lead to high compensation of CEOs.

Fich and Shivdasani (2006), on the other hand, employing a diverse set of networking measures, explicitly the number of boards served by external directors, examined that 'boards busyness' are linked to poor corporate governance and the weak relationship between CEO's rotation with company performance. Particularly, the evidence suggests little variations in respect of the CEO turnover rate among busy and insider controlled boardrooms. The study also indicates a negative and considerable

connection between accounting performance of the company with the subsistence of busy external directors.

Likewise, Adams, Almeida and Ferreira (2005) observe that if the CEO with other board directors located in the similar social networks, poor performing CEOs are rarely to be dismissed. In case, however, such CEOs are expelling from existing post, later they are be likely offered another good job. Nevertheless, there is both qualitative and experiential data that indicates these fact indeed common issues among boards. Granovetter (2005) assert that this form of social networking connections which were built among diverse boards will bring about "largely significant extents of social unity", and similar to the case of strong cluster status that offers social security and patron, which lets CEOs to pursue their post at the expense of investors. According to such steam literature, it is reasonable to hypothesize that:



**Hypothesis 4:** The networks of CEO are negatively significant related with return on assets.

### 3.4 Research Design

In line with the motive seeks to shed light towards the relationship among the networks of CEO, company decision making process and performance, the design of quantitative analysis is considered appropriate meant for the objective and intentions of this study. The judgment to employ quantitative analysis design as the domain approach to assess the model of social

networks performance is following the research method of prior studies in support of the subsequent rationales:

1. The requisite to generate research findings by way of a high extent of operational trustworthiness has supported the alternative to employ a quantitative analysis design.

2. The financial data obtained from the sample size of 100 listed companies in Bursa Malaysia affirmed the choice to employ the quantitative approach to analyse the data in a meaningful way.

3. The motive seeks to devote credit the research of social networks, lengthening the existing strand of literature.



### 3.5 Sampling

To examine the research hypothesizes empirically, top 100 non-financial companies listed in Bursa Malaysia which ranked by market capitalization in the main market as at 31 December 2016 are selected as sample of this study. Such sampling approach is a simulation of Bliss and Gui's study (2012). Often, large companies are regarded as occupied greater part of resources and prospects in the market (Bliss & Gul, 2012). Also, there is the legal obligation for large listed companies in the market ought to maintain good reporting practice to furnish transparent information to public and foreseeable parties (Burns & Kedia, 2006; and Haniffa & Cooke, 2002).

Noteworthy, this study only uses one-year data that is the year 2016 since the main variable of CEO's networks is collective confines the study to single-year cross-sectional examination. But, it is expected that one year study only slightly impinges on the results, given the changes of social networks across years are relatively little; hence employing panel data likely to be a restricted value seeing that there is no considerable time-series difference in this key variable.

Rooted in a wide-ranging sample of Malaysian listed companies in 2016, this study gathered information as regard the networks, corporate governance and performance via the source of DataStream database and manually-collected annual report of listed companies which can be obtainable in Bursa Malaysia website and companies official portal. In the light of convention practice in corporate governance studies, this study follows the same rule and eliminates financial companies in the selected sample. Accordingly, the final sample of top 100 non-financial companies selected with a cumulative market capitalization worth of RM 1,150 billion.

The data of CEO's networks is acquired from the Relationship Science database provided by McGraw-Hill, annual reports and executive profile in Bloomberg database. These databases enclose all-inclusive biographic information of key executives and directors of listed companies over the world. The biographical information is taking account of demographic characteristics (such as age, gender, nationality), career background (such as existing or previous engagements, directorships and employment position),

educational information (such as the school, university, course, and graduation year), and other activities, for instance membership of foundation, club, chamber, society associations, and charities. The datasets also make available the relational ties among CEOs and directors. The ties are developed if two persons were currently or once engaged in the same company, held active joint memberships in the nonprofessional bodies (for instance foundations, chambers, government entities), or alumni ties from attended to the same school before with the interval of graduation year not more than two years.

From Thomson Financial DataStream and annual reports, this study gathered data on CEO tenure, board size, number independence of directors, and CEO duality. In aside, the study also retrieved financial data from same sources, gathering data regarding financial performance, debt leverage, total assets, and market to book ratios. This study uses accounting results, rather than market returns given that financial performance is a lesser amount of noisy and reflect more about the result of CEO exertion even it is admitted that such figures possibly conditional on purposeful manipulation (Fich & Shivdasani, 2007). This study evaluates companies' performance in terms of sales growth (SG) (Fang et al., 2012; Fracassi & Tate, 2012; Liu, 2010; and Yaniv & Patatoukas, 2014) and return on assets (ROA) (Fracassi & Tate, 2012; Kirchamaier & Stathopoulos, 2008; and Nam & An, 2017).

Overall, the sample of study is founded on Malaysia data, which in the forms of corporate governance and board measures are somewhat identical

to the US. Both nations similarly endorse a unitary board structure, and both nations necessitate the nomination committee to exclusively only include external non-executive directors. The difference in the standards is it is an ordinary rule in the US to comprise a joint Chairman and CEO position, while in Malaysia such two posts are usually separate. Thus, it is interesting to observe the results of the study in these two different sites.

### 3.6 Data Collection Procedures

Secondary data is employed in the study to perform a cross-sectional analysis. To serve this objective, the data related to all variables are gathered from Bursa Malaysia founded on Bursa main market as discussed in foregoing sampling section. Accordingly, this study only focuses to top 100 companies listed in Bursa Malaysia main market at 31 December 2016. The data collection sequences are as below:



1) Obtain the list of top 100 companies in the Bursa Malaysia main market;

2) Remove 18 companies listed under finance category;

3) Remove 1 company without complete data;

4) Replace the removal companies with other top-ranking non-financial companies according to market capitalization.

Financial companies are labelled as the field of the special sector. A specialize and highly regulated industry such as financial sector innately involve enormous cash flow in operating activities and different accounting measurement method as well as disclosure regulation which more likely create noisy in the observed result. Also, a company has disclosed limited

information about the board information and relevant data which treated as the input of key variables in this study. With the purpose of ensuring the reliability of empirical results and incomplete information, the study is rejecting the company from the sample. Following all stipulated criterions, there were remaining 81 listed companies. This study then includes other non-financial companies ranked by their market capitalization as at 31 December 2016. At last, these 100 companies were treated as a final sample.

Specifically, the relevant data in relation to CEO's networks is collected from the Relationship Science database, executive profile in Bloomberg database and annual reports. These databases offer reliable and explicit biographic information regarding top executives and directors of listed companies in worldwide. The study considers and assembles the inclusive information of CEOs and directors in terms of: the demographic traits (for instance age and gender), career background (for instance current or prior engagements, directorships and position), educational information (for example the university, bachelor, and graduation year), and other activities (for instance the active key membership of club, foundation, chamber, society associations, or charities).

From the collected data, the ties between CEOs and directors are identified accordingly if two persons were engaged in current or previous employment with the same external company, held active joint memberships in the nonprofessional bodies, or educational ties from same alumni the CEOs and

directors together attended with at any time, excluding the interval of graduation year more than two years

Latest studies that utilize this dataset be inclined to emphasise one or all of these network ties (Cohen et al., 2008; Engelberg et al., 2012; and Fracassi & Tate, 2012). This study follows the suggestion of Fracassi and Tate (2012) to take account of all forms of these network ties.

Particularly, this study recognizes a career engagement ties are developed if two persons have currently or previously employed in the same external company. Other activity ties are determined if two persons held joint membership of minimum one nonprofessional body that director and CEO together actively engaged with for instance foundations, chambers, or government entities. To ensure they held active positions in bodies, this study identifies a qualified other activity tie to be the situation where a person was in excess of a normal member and in the place held a key position of the non-professional bodies. Specifically, such key position could be either a "President," "Trustee," or "Board Member." But, there is exclusion for the membership of club society in which just a membership also judged to be qualified (Fracassi, 2012). The educational tie between two persons are connected if they shared the same alumni of minimum one schools that director and CEO together attended with at any time, excluding the interval of graduation year more than two years. The interval limitation of graduation year in educational ties is to ensure the possibility that the

persons in fact connected owing to the shared educational background (Fracassi & Tate, 2012).

### 3.7 Measurement of the Model and Variables

This section delineates the measurement of key variables to be testified in empirical model, which is including dependent variables, independent variables as well as control variables. As highlighted, this study seeks to examine the relationship between companies' characteristics CEO's and networks. In line with research objectives of this study, two successive phase of models were employed in assessing two different but the conjoined phenomenon which is: firstly, the dynamic of the board and corporate governance structures as determinants that influence the networks of CEO; and conceptualizing the consequence of CEO's networks on companies performance. Accordingly, there are two sets of dependent variables in two different successive stages of models and explicitly, it is worth to highlight that the dependent variables in the primary phase of models are treated as part of independent variables in the models of the second phase. The further information on variables was addressed in below.

#### 3.7.1 Phase 1 Model: Determinants of CEO's Networks

To facilitate analysis the determinants in CEO's networks, a linear ordinary least square (OLS) regressions are employed to examine the relationship between CEO networks and corresponding corporate governance proxies. Accordingly, the dependent variable in this phase is CEO's networks. The

independent variables have mainly comprised a set of corporate governance measures; in addition to a range of company-specific control variables measures, such as, growth opportunities (market-to-book ratio), company leverage, and company size (total assets) to safeguard model parsimony. It is asserts that companies with particular attributes seek to find CEOs with specific unique qualities that best serve their needs, such as better connectedness. Thus, a model in the first phase of this study is adapted from the prior study of Fracassi and Tate (2012) as below:

$$\mathbf{LOGNW} = \beta_0 + \beta_1\mathbf{TENURE} + \beta_2\mathbf{SOB} + \beta_3\mathbf{IOB} + \beta_4\mathbf{DUALITY} + \beta_5\mathbf{LEVERAGE} + \beta_6\mathbf{MTB} + \beta_7\mathbf{LOGASSET}_i + \varepsilon \quad (1)$$

Where;

**LOGNW** = Natural logarithm of CEO's networks, which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. For example, the networks of CEO for company A consist of the total ties derived from: i) current engagement tie from existing employment between CEO and directors in external company, ii) previous engagement tie from prior employment between CEO and directors in external company, iii) other activities tie such as active joint membership between CEO and directors in nonprofessional entities, and iv) education tie from the same alumni between CEO and directors with interval of graduation year not more than two years.

**TENURE**= Number of years CEO held the position in particular company.

**SOB**= Size of the board, which is the number of the directors on the board.

**IOB** = Number of independent director serve on the board.

**DUALITY**= CEO or chairman duality, 1 if CEO is chairman, 0 otherwise.

**LEVERAGE** = Leverage ratio, which is long-term debt plus short-term debts divided by total equity.

**MTB** = Market-to-book ratio, which is market capitalization divided by company book value.

**LOGASSET** = Natural logarithm of total assets.

### 3.7.2 Phase 2 Model: CEO's Networks and Performance of Company

#### i. Sales Growth

In accordance to two competing theories underpinned in this study, social network theory suggests a positive relationship among CEO connectedness and growth of earnings performance (Fang, et al., 2012; Liu, 2010, and Shivaram et al., 2003); however, agency theory proposes a negative relationship among CEO connectedness and accounting performance (Fracassi & Tate, 2012; Kirchmaier & Stathopoulos, 2008; and Nam & An, 2017). At here, CEO's networking in the first model is assumed as an independent variable in measuring the consequence of CEO connectedness to performance. To examine the consequence of CEO's networking on company performance explicitly, this study utilizes two set of performance measures, sales growth and return on asset. To begin with, this study firstly evaluates the consequence of CEO connectedness on sales growth, hinging on linear OLS regression model as below:

$$\mathbf{LOGSG} = \beta_0 + \beta_1\mathbf{LOGNW} + \beta_2\mathbf{TENURE} + \beta_3\mathbf{SOB} + \beta_4\mathbf{IOB} + \beta_5\mathbf{DUALITY} + \beta_6\mathbf{LEVERAGE} + \beta_7\mathbf{MTB} + \beta_8\mathbf{LOGASSET}_i + \varepsilon_i \quad (2)$$

Where;

**LOGSG** = Sale growth, which is current year sales minus last year sales, then divided by last year sales.

**LOGNW** = Natural logarithm of CEO's networks, which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. For example, the networks of CEO for company A consist of the total ties derived from: i) current engagement tie from existing employment between CEO and directors in external company, ii) previous engagement tie from prior employment between CEO and directors in external company, iii) other activities tie such as active joint membership between CEO and directors in nonprofessional entities, and iv) education tie from the same alumni between CEO and directors with interval of graduation year not more than two years.

**TENURE** = Number of years CEO held the position in particular company.

**SOB**= Size of the board, which is the number of the directors on the board.

**IOB** = Number of independent directors serve on the board.

**DUALITY**= CEO or chairman duality, 1 if CEO is chairman, 0 otherwise.

**LEVERAGE** = Leverage ratio, which is long-term debt and short-term debts to total equity.

**MTB** = Market-to-book ratio, which is market capitalization to company book value.

**LOGASSET** = Natural logarithm of total assets.

**ii. Return on Assets**

In the next step of this phase, this study follows agency theory by conducts another test to justify the consequence of social networks on accounting performance that is the return on assets. Accordingly, the analysis is instigated via the initial model as below:

$$\mathbf{ROA} = \beta_0 + \beta_1\mathbf{LOGNW} + \beta_2\mathbf{TENURE} + \beta_3\mathbf{SOB} + \beta_4\mathbf{IOB} + \beta_5\mathbf{DUALITY} + \beta_6\mathbf{LEVERAGE} + \beta_7\mathbf{MTB} + \beta_8\mathbf{LOGASSET}_i + \varepsilon_i \quad (3)$$

Where;

**ROA**= Return on assets, which is net income to total assets.

**LOGNW** = Natural logarithm of CEO's networks, which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. For example, the networks of CEO for company A consist of the total ties derived from: i) current engagement tie from existing employment between CEO and directors in external company, ii) previous engagement tie from prior employment between CEO and directors in external company, iii) other activities tie such as active joint membership between CEO and directors in nonprofessional entities, and iv) education tie from the same alumni between CEO and directors with interval of graduation year not more than two years.

**TENURE**= Number of years CEO held the position in particular company.

**SOB** = Size of the board, which is the number of the directors on the board.

**IOB** = Number of independent directors serve on the board.

**DUALITY**= CEO or chairman duality, 1 if CEO is chairman, 0 otherwise.

**LEVERAGE** = Leverage ratio, which is long-term debt and short-term debts to total equity.

**MTB** = Market-to-book ratio, which is market capitalization to company book value.

**LOGASSET** = Natural logarithm of total assets.

**iii. Robustness Check of Return on Assets Model**

But, the return on assets model is theoretically weak owing to a primary reason. It is suspected an endogeneity problem exists among accounting performance in term of return on assets and social networks that considerable to the extent unable be solved in this model. Particularly, if employing return on assets model, it implies this study simply consider the causality relationship where social networking measures influence the financial performance variables as the only real direction.



Although this study hypothesizes that social networks drive financial performance such as return on assets, on the other hand, it also a proposition suggests that performance be capable to shape the power of networking. Fich and Shivdasani (2006) find that CEOs tend to hold more external directorships as there is sound accounting performance of companies managed such as return on assets.

Therefore, this study considers the results of Fich and Shivdasani (2006) to test such 'inverse' relationship in the further test. Accordingly, this study develops a new equations system and test a two-stage least square

regression in the arrangement as below to test the endogeneity. The first model is the corresponding with the model of CEO networking in phase 1, but a new independent variable is the return on assets to control this inverse correlation. In the second model, it is robustness model of return on assets with the fitted values of LOGNW to analysis the linkage between networking and performance.

$$\mathbf{LOGNW} = \beta_0 + \beta_1\mathbf{ROA} + \beta_2\mathbf{TENURE} + \beta_3\mathbf{SOB} + \beta_4\mathbf{IOB} + \beta_5\mathbf{DUALITY} + \beta_6\mathbf{LEVERAGE} + \beta_7\mathbf{MTB} + \beta_8\mathbf{LOGASSET}_i + \varepsilon_i \quad \textbf{(4)}$$

$$\mathbf{ROA} = \beta_0 + \beta_1\mathbf{LOGNW}\hat{} + \beta_2\mathbf{LEVERAGE} + \beta_3\mathbf{MTB} + \beta_4\mathbf{LOGASSET}_i + \varepsilon_i \quad \textbf{(5)}$$

Where;

**ROA**= Return on assets, which is net income to total assets.

**LOGNW** = Natural logarithm of CEO's networks, which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. For example, the networks of CEO for company A consist of the total ties derived from: i) current engagement tie from existing employment between CEO and directors in external company, ii) previous engagement tie from prior employment between CEO and directors in external company, iii) other activities tie such as active joint membership between CEO and directors in nonprofessional entities, and iv) education tie from the same alumni between CEO and directors with interval of graduation year not more than two years.

**LOGNW^**= Fitted values of CEO's networks.

**TENURE** = Number of years CEO held the position in particular company.

**SOB**= Size of the board, which is the number of directors on the board.

**IOB** = Number of independent directors serve on the board.

**DUALITY**= CEO or chairman duality, 1 if CEO is chairman, 0 otherwise.

**LEVERAGE** = Leverage ratio, which is long-term debt and short-term debts to total equity.

**MTB** = Market-to-book ratio, which is market capitalization to company book value.

**LOGASSET** = Natural logarithm of total assets.

### 3.7.3 Dependent Variable

As depicted in the foregoing section, there are three dependent variables employed in this study: CEO's networks, sales growth, and return on assets.

***LOGNW*** is a variable refers to CEO networks that comprise a collective one that measuring all direct ties the CEO has built across her lifetime. It calculates the direct connections developed by CEO, rather than the indirect connection that is the ties may develop by mean of another third director on same boardroom (Fracassi & Tate, 2012). This study follows the suggestion of Fracassi and Tate (2012) to take account all forms of current engagement tie, previous engagement tie, other activity ties, and education tie.

To measure the characteristic of CEO's networks, this study collect individual and biographic information as regard with the CEO's networks from Relationship Science database, executive profile in Bloomberg database and annual reports. These databases furnish reliable and detail

information about top executives and directors of listed companies in worldwide. Accordingly, this study measures the CEO's networks from the all-ranging information concerning with the career background (such as current or prior engagements, directorships and position), other activities (such as the active key membership of club, foundation, chamber, or charities), and educational information (such as the university, bachelor, and graduation year). Through this gathered data, the ties of CEOs and directors are recognized accordingly if two persons were engaged as below.

Firstly, the current engagement tie denotes the connection from existing employment of minimum one common company the director and CEO is externally engaged with (Fracassi & Tate, 2012). For instance, a current engagement tie is said exist if a CEO and director is concurrently serving in the same external boardroom or working in at least one external company.



Next, the previous engagement tie denotes the connection from past employment of minimum one common company the director and CEO were externally engaged with (Fracassi & Tate, 2012). For instance, a previous engagement tie is said exist if a CEO and director is previously serving in the same external boardroom or working in at least one external company.

Other activity ties signify that the connection from joint membership of minimum one nonprofessional bodies that director and CEO together actively engaged with such as the foundations, chambers, or government entities. To ensure they held active positions in bodies, this study identifies

a qualified other activity tie to be the situation where a person was in excess of a normal member and in the place held a key position of the non-professional bodies. Specifically, such key position could be either a "President," "Trustee," or "Board Member." But, there is exclusion for the membership of club society in which just a membership also judged to be qualified (Fracassi & Tate, 2012).

Education tie indicates that the connection from same alumni of minimum one schools that director and CEO together attended with at any time, excluding the interval of graduation year more than two years. The interval limitation of graduation year in educational ties is to ensure the possibility that the persons in fact connected owing to the shared educational background (Fracassi & Tate, 2012).



To illustrate the measurement of CEO's network more clearly, it is proper to look at an example (further details please refer to Appendix 3), for instance, a CEO from company A who has 5 current engagement ties from existing employment of company in which director and CEO together externally engaging with, 2 prior engagement ties from past employment of external companies in which director and CEO engaged together, 4 other activity ties derived from joint memberships chamber and foundation with directors, and 1 education tie given the shared alumni status with directors. Hence, the networks of CEO for company A is computed by adding up all ties in above and it is 12 connections in this case. To confine the outliner effect, this study uses natural logarithm value.

This measure is believed offer a more comprehensive indicator of networks as it covers not merely the interlocking however an added realistic measure of a CEO's ties that accumulated across the lifetime. Thus, it is assumed this inclusive variable provides a better-defined depiction of CEO's networks.

***LOGSG*** is a logarithm value of company's net sales growth over the financial period. The formula of sale growth ratio is current year sales minus last year sales, then divided by last year sales. Sales growth ratio is a relative amount of percentage that evaluates sales performance of company via measuring the change in net sales value across two succeeding years. Ahsan Habib (2010) assert positive sales growth implies the boost up of company financial performance across years. The evidence of Yaniv and Patatoukas's (2014) study indicated that sales growth shape a positive influence on the overall profitability of the company. As acknowledged the size of sales growth, a company can relatively forecast the level of profit expected to realize in the end. In relation to Ahsan Habib's (2010) study give details the significance of sales growth indicates the expected outposts of company expansion in future.

***ROA*** is a ratio of annual earnings divided by total assets over financial period. The formula of return on asset (ROA) ratio is net income divided by total assets. Consistent with Fracassi and Tate (2011), ROA is an indicator of the general effectiveness of executive in yielding profits by means of accessible assets. Given ROA is the measure of company success for wealth

management, thus a positive value of the ROA reveals the efficiency of company's performance in utilizing the assets to make profits.

### 3.7.4 Hypothesize Variables

***TENURE*** is referred to CEO tenure which measured via capture the span of years the CEO has held the existing position in the company. It is calculated the number of years of current employment. Social network theory argues that CEOs would form a powerful networking base across the period. However, recent literature suggests CEO tenure is related to company-employee connection strength and in turn will influences company performance either positively or negatively (John et al., 2010).

***SOB*** is referred to the number of board members serve on the company board. It is broadly identified that the size of the board is a decisive corporate governance mechanism and exerts a foremost function in company's management. In this context, board size and its consequence on company performance is very controversial matter in corporate governance but recent studies particularly resource dependence hypothesis suggest positively relationship of board size to the performance (Feyen, 2014).

### 3.7.5 Control Variables

Several control variables were employed in the study to ensure model parsimony include: independence of boards, duality, leverage, market-to-book ratio (MTB) and total assets.

***IOB*** is referred to a number of independent directors serve on the company board. In this study, it is dummy value where equal to 1 if CEO is chairman, 0 if otherwise. Initially, agency theory suggests that independent director as the key internal mechanism in ensure best governance practice (Haniffa & Cooke, 2002). However, some scholars also have documented a negative correlation between the total of external directors with company value and managerial performance. For instance, Agrawal and Chadha (2005) and Adams and Ferreira (2003) respectively, observe a negative association between the size of the independence directors and company performance.

***DUALITY*** is referred to the circumstance which CEO at the same time held the chairman of the boardroom. The measure of CEO duality is particularly emphasized by the combined code as it symbolizes the possible issue of unfettered authority on decision-making and imbalanced power. Accordingly, this study measure duality employing a dummy variable that is one if two positions are divided, or zero if vice versa. Adams et al. (2005) suggest that CEOs duality results in excessive power to pursue their self benefits instead of shareholders interest. Thus, it is predicted to CEO duality negatively influence company performance.

***LEVERAGE*** is the ratio of total debt owed divided by total equity held by the company. Bliss and Gul (2012) suggest the positive relationship between debt leverage and networking in term of political connection. However, high leverage level to certain extent signifies the company were subject to breach

the debt covenant, thus increased monitoring requirement in term of risk premium was high, which cause debt cost increase and lower profitability. The evidence of the recent study indicates the negative relationship between debt leverage and company performance. Long-term debt is additional costly owing to transaction costs. Hence, it is expected to utilize high extent of debt cause negative effect on company profitability.

***MTB*** is the market to book ratio that computed by comparing the market value of companies to its book value. Often, MTB ratio is treated as a proxy of growth opportunities has been a regular indicator of company value. Prior studies argue that this ratio reveals the capability of management in generating sound operational performance and accounting outcomes (Fich & Shivdasani, 2006). Hence, it is predicted MTB ratio is positively related to company performance.



***LOGASSET*** is common variable regularly employed as the proxy of company size in corporate governance literature. This variable often represents by the natural logarithm of total assets. Accordingly, a large amount of this variable signifies the size of the company is high that is comparative (Fich & Shivdasani, 2006). The company size is the total and diversity of operational capacity and resources a company occupied. Often, the large company own and need variety set of resources such as networking. As well, company size is presumed positively linked to the performance owing to implications of economies scale.

### 3.8 Research Variables

*Table 3.1*

Description of Dependent Variables.

| Variables | Measurement | Source |
|---|---|---|
| LOGNW | The total direct ties of CEO has built across lifetime, consist of:<br>i) Current engagement tie,<br>ii) Previous engagement tie,<br>iii) Other activity tie, and<br>iv) Education tie.<br>Current engagement tie is existing employment between CEO and directors in external company; Previous engagement tie is prior employment between CEO and directors in external company; Other activities tie is active joint membership between CEO and directors in nonprofessional body; Education tie is the same alumni between CEO and directors with interval of graduation year not more than two years. | Relationship Science database, Bloomberg dataset, and annual reports. |
| LOGSG | The natural logarithm value of net sales growth percentage, which is: current year sales minus last year sales, then divided by last year sales. | DataStream |
| ROA | The percentage of return on asset, or net income to total assets. | Data Stream |

*Table 3.2*

Description of Independent Variables.

| Variables | Measurement | Prediction | Source |
|---|---|---|---|
| LOGNW | The total direct ties of CEO has built across lifetime, consist of:<br>i) Current engagement tie,<br>ii) Previous engagement tie,<br>iii) Other activity tie, and<br>iv) Education tie.<br>Current engagement tie is existing employment between CEO and directors in external company; Previous engagement tie is prior employment between CEO and directors in external company; Other activities tie is active joint membership between CEO and directors in nonprofessional body; Education tie is the same alumni between CEO and directors with interval of graduation year not more than two years. | Positive or Negative | Relationship Science database, Bloomberg dataset, and annual reports. |
| TENURE | Number of years CEO held the position in particular company. | Positive or Negative | Annual Reports |
| SOB | Number of directors served in company's board. | Positive | Annual Reports |

| Variables | Measurement | Prediction | Source |
|---|---|---|---|
| IOB | Number of independent directors serves in company's board. | Negative | Annual Reports |
| DUALITY | Dummy variable, 1 if the CEO is a board's chairman, 0 otherwise. | Negative | Annual Reports |
| LEVERAGE | The ratio of total debts to equity. | Negative | DataStream. |
| MTB | The ratio of company's market capitalization to book value. | Positive or Negative | DataStream |
| LOGASSET | Natural logarithm of total assets. | Positive | DataStream |



### 3.9 Data Analysis

#### 3.9.1 Descriptive Analysis

Descriptive analysis is the preliminary test to quantitatively depict the basic traits of sample data. It is a simple summary statistic that forms a base to virtually interpreting data pattern visibly and simplifies large numbers of variables' raw data in a sensible manner (Tofallis, 2008). The descriptive measures in this test include the range (minimum or maximum value), central tendency (mean), and variability (standard deviation) about every variable in the model.

### 3.9.2 Normality Assumption

Normality assumption delineates a test to best guess whether the pattern of the sampling distribution for the mean of variables is in a normal distribution (Toby Mordkoff, 2016). With the purpose to identify how likely the best guess in the study perhaps to be wrong and to form a confidence interval on behalf of the certain value, it is relevant in multivariate analysis following the same procedure to predict the sampling distribution for the attribute of interest. Often, normality test is estimated the sampling distribution for the mean given the mean almost at all times constitute the attribute of interest. However, this test possibly is not always exact when the sample size is relatively small even it is the strong assumption. To serve the purpose of normality assumption, this study uses Shapiro-Francia test.



### 3.9.3 Heteroskedasticity Test

Heteroskedasticity has regularly emerged in cross-sectional regression analysis. An underlying cause of this situation is the conditional distribution of dependent variable has the diverse extent of variability to the different population. The subsistence of heteroskedasticity is a significant issue in the appliance of regression testing, as well as the variation analysis, as it can decline the significance of statistical results by presuming the modelling errors are unrelated and homogeneous (Richard William, 2015). Accordingly, even the ordinary least squares measures are relatively fair in the existence of heteroskedasticity, still it is considered inefficient owing to the real variation are undervalued. In this study, Breush-Pagan/ Cook-

Weisberg Test and Ramsey RESET test are utilized to assess the heteroskedasticity via the chi-square value.

### 3.9.4 Multicollinearity Test

Multicollinearity is a statistical occurrence wherein subsists of a perfect or high extent of correlation among the hypothesize variables (Ranjit Kumar Paul, 2006). As an exact relationship emerges among the independent variables, it is the difficult to reach to the reliable estimation of coefficients for each variable respectively. It will result in incorrect conclusions about the relationship between the outcome variable and predictor variables. Multicollinearity issue intensifies the variances between the indicator estimates and thus gives rise to the statistical insignificance of each variable. To this, Pearson Correlation test and Variance Inflation Factor (VIF) test was employed to examine the multicollinearity issue.



## 3.10 Chapter Summary

This chapter highlight the methodology of research, proposed hypothesizes and the process of sampling collection. Explicitly, it started by clarifies the theoretical framework and hypotheses development. At last, this chapter gives details the analysis technique to be employing in the study in assess the relationship among response and predictor variables.

# CHAPTER FOUR

# ANALYSIS AND FINDINGS

## 4.1 Introduction

In this chapter, it started by demonstrating the descriptive statistics result, subsequently with the presentation of the regression results. It is followed by a discussion of the results, and most important the examination of whether predicted hypotheses are rejected or supported. Lastly, the robustness tests and two-stage regression results are also discussed in last.

## 4.2 Descriptive Statistics

The descriptive statistics of all variables are exhibited in the following table.

Table 4.1

*Summaries of Descriptive Statistics (N=100).*

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| LOGNW | 1.2589 | 0.9833 | 0 | 4.54 |
| LOGSG | 0.1479 | 0.0126 | -0.1170 | 0.1761 |
| ROA | 0.0726 | 0.1027 | -0.1807 | 0.6032 |
| TENURE | 8.11 | 8.97 | 1 | 39 |
| SOB | 9.06 | 2.0881 | 5 | 15 |
| IOB | 4.13 | 1.1691 | 2 | 8 |
| DUALITY | 0.11 | 0.3145 | 0 | 1 |
| LEVERAGE | 1.137 | 1.5076 | 0.05 | 10.48 |
| MTB | 4.004 | 8.4407 | 0.24 | 72.32 |
| LOGASSET | 15.5919 | 1.3517 | 12.6228 | 18.7051 |

**Notes:** LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in the nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is the number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is the CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short-term debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

The 100 companies in the final sample are derived from 10 different sectors. On the whole, an outstanding sector appeared from the sample is Trading and Service industry which composes about 43 percents of all companies in the sample, subsequently is Consumer product (12 percents), Industrial Products (12 percents) and Properties (10 percents). Regarding the complete details of the industry distribution, kindly refer to Appendix 1.



As regard CEO's networks, the logarithm value of average CEO connectedness in the sample is 1.26 direct ties in external boardroom across the lifetime, ranging from 0 to 4.54. This average amount is slightly lower than connectedness in the US but it is acceptable due to the different setting (Ferhat, Felix & Wintoki, 2016). The range of minimum and the maximum value is relatively large where some CEOs have fairly few external direct ties while some CEO keenly tied with external directors. The standard deviation is 0.9833 which lower than mean signifies that most of the direct ties of CEOs in the sample are close to the average given the coefficient of variation is less than 1. Accordingly, this result reflects that as a general rule CEOs of listed companies seek to develop networking linked to directors.

In term of companies' performance, the average of sales growth in the sample is 0.1479. In overall, it suggests that the majority companies indicate positive growth in their sale performance. The same situation is valid to return on assets of companies in which the average return rate is 0.0726.

To the extent that career paths of CEOs are examined, every CEO of listed companies in overall has a relatively long tenure which is held about 8 years in existing position. Specifically, the company has longest CEO tenure is Genting Plantation Berhad which is 39 years. It is well-matched with the viewpoint that the CEO of large companies particularly occupied huge market capitalization is enjoyed the high prospect of job retention as compared to small companies.



In relation to another dimension of corporate governance measures to be concerned, the size of boards in overall is adequate in size wherein the mean value is 9.06 and it is not too small or too big to be managed. From it, the company has largest board size is Malaysia Airport Holdings Berhad in which 15 members were served in the board. In addition, the total of independent directors in the boardroom also satisfied as the average number is 4.13 which about 4 persons and reach half of the board size. In the sample, Tenaga Nasional Berhad has the most independent directors sit in the board. In the context of CEO duality, the average amount is 0.11 and this result indicates that it is not the common phenomenon in Malaysian listed companies to have CEO held the chairman position in same time.

As concerned to the companies features, the typical leverage level of listed companies is 1.137 which suggest that the companies depending more on the debt in the capital structure to finance the operation. However, the average market-to-price ratio is 4.004 and this reflects that the market expectation to growth opportunity of listed companies in overall is relatively optimism. The proxy of size is the logarithm of total assets in which the mean is 15.5919 while the standard deviation is 1.3517. It reveals that Malaysian companies are large in size but the scale of difference also huge.

### 4.3 Diagnostic Tests

Research examination is progressed to testify the results of the empirical study and establish the weather the relationships among the variables are validity. It is confirmed via several regression tests that are normality assumption, heteroscedasticity test, and multicollinearity test to validate the models (Tofallis, 2008). These subsequent tests in below are conducted in the study.

#### 4.3.1 Normality Assumption

As discussed in the previous chapter, normality is relevant for multivariate analysis in following the same procedure to best predict the sampling distribution of key variables is in the confident interval of the normal distribution. To this purpose, Shapiro-Francia test was employed in this study to examine the normality assumption of variables in the sample

derived from the normal dispensed population. Accordingly, the table in below show the Shapiro-Francia test result:

Table 4.2

*Summary of Shapiro-Francia test (N=100).*

| Variables | W | V | Z | Prob>z |
|---|---|---|---|---|
| LOGNW | 0.9925 | 0.6870 | -0.7430 | 0.7712 |
| LOGSG | 0.9937 | 0.5700 | -1.1110 | 0.8667 |
| ROA | 0.7642 | 21.4590 | 6.0600 | 0.0000 |
| TENURE | 0.7986 | 18.3310 | 5.7490 | 0.0000 |
| SOB | 0.9752 | 2.2560 | 1.6080 | 0.0539 |
| IOB | 0.9800 | 1.8220 | 1.1860 | 0.1179 |
| DUALITY | 1.0000 | 0.0000 | -62.324 | 1.0000 |
| LEVERAGE | 0.5372 | 42.1170 | 7.3930 | 0.0000 |
| MTB | 0.36795 | 57.5160 | 8.0090 | 0.0000 |
| LOGASSET | 0.9904 | 0.8740 | -0.2660 | 0.6048 |

From the summary in Table 4.2, the result indicates that the majority variables including LOGNW, LOGSG, SOB, IOB, DUALITY and LOGASSET are normally distributed given the small number of the appealing index; V-value suggests the normality pattern among these variables. Simultaneously, it is observed that the p-value of these variables is above alpha $\alpha$ level, thus it is failed to reject the null hypothesis and reasonable to establish that the sample is normally distributed. In contrast, it is noted that ROA, TENURE, LEVERAGE and MTB may not be normally distributed given the large V-value and p-value $< 0.01$ which is very significant and reject the null hypothesis to establish the data is not normally

distributed. However, such results do not signify that the non-normality is a serious issue to any severe intended. It merely reflects that the dataset is sufficiently huge to emerge there is detectable not normality in data via the parameter of a significant check.

According to Oztuna, Elhan and Tuccar (2006), if the sample size is relatively small that is only 100 companies in this study, the breach of the normality hypothesis should not trigger any serious issues. It is owing to the normality test usually has little persuasiveness to decline the null hypothesis if the sample size is small, this small sample as a rule regularly passes the normality test. The significant results of sampling distribution tend to be derived given the small amount of sample data. Toby (2016) also asserts that the study still can employ the parametric procedures through the variables are non-normally distributed. Accordingly, if the samples comprise only 100 observations, it is able to disregard normally issue.



### 4.3.2 Heteroskedasticity Test

Heteroskedasticity is a common concern in cross-sectional regression analysis due to underlying nature of cross-sectional models often causes the dependent variables vary in the different way to the population. Given the appearance of heteroskedasticity is so significant in the regression testing appliance to the extent it will decline the implication of statistical results, thus it is necessary to examine whether the models undergo heteroskedasticity problem. To this, the Breush-Pagan/ Cook-Weisberg Test

and Ramsey RESET test are utilized in the study to assess the heteroskedasticity of three models in this study respectively.

Table 4.3

*Heteroskedasticity Test: Phase 1 Model - Determinants of CEO's Networks.*

| **Heteroskedasticity Test: Breusch-Pagan / Cook-Weisberg and Ramsey RESET test** | | | |
|---|---|---|---|
| **Chi2(1)** | 1.05 | **F-statistic (3, 89)** | 1.11 |
| **Probability of Chi-Square** | 0.3046 | **Prob.> F** | 0.3484 |

From the result in Table 4.3, it is observed the p-value of Breush-Pagan/ Cook-Weisberg Test is in excess of 0.05, thus the null hypothesis is accepted and there has no significant heteroskedasticity issue among the error terms and variables in the model. Also, the p-value of Ramsey RESET test is more than 0.05 which suggest the model has no omitted variable.



Table 4.4

*Heteroskedasticity Test: Phase 2 - CEO's Networks and Sales Growth.*

| **Heteroskedasticity Test: Breusch-Pagan / Cook-Weisberg and Ramsey RESET test** | | | |
|---|---|---|---|
| **Chi2(1)** | 1.38 | **F-statistic (3, 88)** | 0.22 |
| **Probability of Chi-Square** | 0.2394 | **Prob.> F** | 0.8789 |

Similarly, there has no significant heteroskedasticity issue in the second model as the p-value of Breush-Pagan/ Cook-Weisberg Test is in excess of 0.05, thus the null hypothesis cannot be rejected and there has no constant variable in the model. The same situation in Ramsey RESET test result

where the p-value is more than alpha level and it implies that there has no omitted variable in the model. Accordingly, the model is not misspecification because of fitted values.

Table 4.5

*Heteroskedasticity Test: Phase 2 - CEO's Networks and Return on Assets.*

| **Heteroskedasticity Test: Breusch-Pagan / Cook-Weisberg and Ramsey RESET test** | | | |
|---|---|---|---|
| **Chi2(1)** | 92.33 | **F-statistic (3, 88)** | 16.00 |
| **Probability of Chi-Square** | 0.000 | **Prob.> F** | 0.000 |

In this model, the p-value of Breush-Pagan/ Cook-Weisberg Test is 0.000 which less than 0.05, thus the null hypothesis is rejected and it proposes significant indication of heteroskedasticity issue. Likewise, the p-value of Ramsey RESET test result also 0.000 and implies that there has omitted variable in the model. This result also suggests that perhaps non-linear arrangements of fitted values help to better explain the dependable variable. This result is not surprising as mentioned in the previous chapter the return on assets model is theoretically weak due to endogeneity problem among accounting performance in term of return on assets and social networks. This study only assumes the networks affect return on assets but there are studies suggesting that good performance also shape the power of networking. To cope with this issue, this study will further perform a robustness test and two-stage regression to examine whether the result remains the same.

### 4.3.3 Multicollinearity Test

Multicollinearity is a situation occurs where there is high correspondence among independent variables. If an exact relationship arises across the independent variables, it causes the reliable assessment of coefficients for each variable unable to be reached. Ultimately, this issue will bring about erroneous opinions to the relationship of the response variable and explanatory variables.

To this, a common multicollinearity test is using Pearson Correlation Matrix. Pearson Correlation Matrix is one of the common ways to identify any pair-wise relationship among the explanatory variables apiece. If there has significantly correlated pattern exists among the explanatory variables to explain one and another, thus it is asserted that presence of the multicollinearity issue. As indicated in Table 4.6, a highest significant correlation being observed from the Pearson Correlation coefficient among the explanatory variables is the relationship between MTB ratio and leverage ratio in which the coefficient is 0.6691 with the p-value at 0.01 levels. However, Rodger and Nicewander (1988) suggested that the coefficient from 0.3 to 0.7 just signify a modest linear relationship according to fuzzy firm linear rule.

Table 4.6

*Pearson Correlation Matrix*

| | LOGNW | LOGSG | ROA | TENURE | SOB | IOB | DUALITY | LEVERAGE | MTB | LOGASSET |
|---|---|---|---|---|---|---|---|---|---|---|
| **LOGNW** | 1.000 | | | | | | | | | |
| **LOGSG** | 0.3960** | 1.000 | | | | | | | | |
| **ROA** | -0.3158*** | -0.0556 | 1.000 | | | | | | | |
| **TENURE** | 0.2713*** | -0.0655 | -0.0482 | 1.000 | | | | | | |
| **SOB** | 0.2929** | 0.2407** | -0.2777** | -0.0812 | 1.000 | | | | | |
| **IOB** | 0.1033 | 0.3150** | -0.2019** | -0.0765 | 0.4312*** | 1.000 | | | | |
| **DUALITY** | 0.1493 | 0.1561 | -0.0716 | 0.4433*** | 0.0052 | 0.0981 | 1.000 | | | |
| **LEVERAGE** | -0.0340 | 0.2317** | 0.0796 | -0.1351 | 0.0536 | 0.0017 | -0.0858 | 1.000 | | |
| **MTB** | -0.2575** | 0.0326 | 0.5681*** | -0.1473 | -0.1657 | -0.1114 | -0.1112 | 0.6691*** | 1.000 | |
| **LOGASSET** | 0.4614*** | 0.7283** | -0.4324*** | 0.0769 | 0.2895*** | 0.2864*** | 0.1579 | 0.1673* | -0.2125* | 1.000 |

**Note:** * if $p \leq 0.1$, ** if $p \leq 0.05$, *** if $p \leq 0.01$ signifies the significant level at 10%, 5% and 1% correspondingly.

LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in the nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short-term debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

Nevertheless, a Pearson Correlation Matrix may not sufficient to indicate the sign of multicollinearity issue. Accordingly, another reliable tool is using Variance Inflation Factor (VIF) test to justify whether the model free of multicollinearity. Tables Table 4.7 and Table 4.8 as below indicate the VIF test result for each model.

Table 4.7
*Multicollinearity Test: Phase 1 - Determinants of CEO's Networks.*

| Variables | VIF | 1/VIF |
|---|---|---|
| TENURE | 1.30 | 0.7718 |
| SOB | 1.33 | 0.7545 |
| IOB | 1.30 | 0.7670 |
| DUALITY | 1.29 | 0.7747 |
| LEVERAGE | 2.28 | 0.4394 |
| MTB | 2.33 | 0.4291 |
| LOGASSET | 1.41 | 0.7068 |
| Mean VIF | 1.61 | |

In VIF test, the extent of multicollinearity is determined by considering the VIF value. From the result, the overall VIF value to each variable is less than 2.50 and the mean VIF value is around 1.61. Thus, it suggests that there was no strong evidence of multicollinearity in this model according to the rule of thumb which the multicollinearity is significant when the VIF value is more than 10 (Robert, 2007).

Table 4.8

*Multicollinearity Test: Phase 2 - CEO's Networks and Sales Growth with CEO's Networks and Return on Assets.*

| Variables | VIF | 1/VIF |
|---|---|---|
| NW | 1.48 | 0.6739 |
| TENURE | 1.39 | 0.7213 |
| SOB | 1.40 | 0.7144 |
| IOB | 1.32 | 0.7593 |
| DUALITY | 1.29 | 0.7741 |
| LEVERAGE | 2.28 | 0.4394 |
| MTB | 2.35 | 0.4256 |
| LOGASSET | 1.64 | 0.6116 |
| Mean VIF | 1.64 | |



The multicollinearity results for these two models in the second stage, which is *CEO's Networks and Sales Growth* with *CEO's Networks and Return on Assets,* exactly the same given the independent variables of these models are identical. From the result, the overall VIF value to each variable of these two models in the second phase also less than 2.50 where the mean VIF value is around 1.63. Again, it concludes that there was no multicollinearity among the variables in these models.

## 4.4 Regression Analysis

### 4.4.1 Phase 1 Model: Determinants of CEO's Networks

To facilitate the investigation of determinants in CEO's networks, a linear OLS regression is created to study the relationship. Accordingly, the dependent variable in this phase is CEO's networks. The independent variables have mainly comprised a set of corporate governance measures, with a range of company-specific control variables measures. It is assets that companies with particular attributes seek to find CEOs with specific qualities, such as connectedness. Below is the regression result for CEO's networks model.

Table 4.9
*Regression Result: Phase 1 - Determinants of CEO's Networks.*

| LOGNW | Coefficient | Std. Error | t-value | Sig. |
|---|---|---|---|---|
| **TENURE** | 0.0271 | 0.1068 | 2.54 | 0.013** |
| **SOB** | 0.1054 | 0.4640 | 2.27 | 0.025** |
| **IOB** | -0.0797 | 0.0822 | -0.97 | 0.335 |
| **DUALITY** | -0.0807 | 0.3041 | -0.27 | 0.791 |
| **LEVERAGE** | -0.0022 | 0.8421 | -0.03 | 0.980 |
| **MTB** | -0.0132 | 0.0152 | -0.87 | 0.388 |
| **LOGASSET** | 0.2803 | 0.0741 | 3.79 | 0.000*** |
| **CONS** | -3.8931 | 1.1148 | -3.49 | 0.001 |
| **F-statistic (7,92)** | | | 6.36 | |
| **Prob. F-statistic** | | | 0.0000 | |
| **R-squared** | | | 0.3261 | |
| **Adj R-squared** | | | 0.2748 | |

Note: ** if $p \leq 0.05$, *** if $p \leq 0.01$ signifies the significant level at 5% and 1% correspondingly.

LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in the nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short-term debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

From the Table 4.9, there are two explanatory variables from the predicted model have indicated the significant relationship with CEO's networks which are: TENURE and SOB. Each of these variables has low p-value (less than 0.05) thus it signifies the null hypothesis is rejected and such predictor is meaningful to the variation in the dependent variable, CEO's networking.



At first, the TENURE variable constitutes a significant effect of the explained variation on CEO's networks with the coefficient size of 0.0271. A positive value of TENURE parameter suggests a positive relationship between CEO tenure and CEO's networks. Thus, the first hypothesis is supported in this case given the result suggests that an entrenched CEO with long tenure tend to pose better connectedness in the position.

As regard to the size of the board, the coefficient of SOB is 0.1054 in which the positive estimate suggests a positive and significant relationship between the size of boards and CEO's networks. Accordingly, it is implied that the

result established strong evidence for the second hypothesis to verify the companies with large board size be likely to hire CEO with outsized networks.

In addition, the same case also supported in control variable, where the beta measure of LOGASSET is 0.2803 also implies a positive significant correlation between company size and CEO's networks. However, there are few predictors assumed to be insignificant in the results given the high p-value suggest the null hypothesis cannot be rejected even the fraction of each variable is relatively large. In overall, the adjusted R-squared value of 0.2748 is comparable with previous studies which also at the level of 0.31 (Kirchmaier & Stathopoulos, 2008) and it indicate the study is in a standard complete level and CEO's networks are positively affected by CEO tenure and size of the board.



### 4.4.2 Phase 2 Model: CEO's Networks and Performance of Company

#### i. Sales Growth

As step to two contradicting theories underlined in this study, social network theory proposes a positive linkage between CEO connectedness and growth of sales performance. To examine for the consequence of CEO's networks connection on company performance explicitly, this study utilizes two diverse set of performance measures, which are: sales growth and return on asset. To begin with, this study firstly evaluates the consequence of CEO connectedness on sales growth. Below is the regression result of the model.

Table 4.10

*Regression Result: Phase 2 - CEO's Networks and Sales Growth.*

| LOGSG | Coefficient | Std. Error | t-value | Sig. |
|---|---|---|---|---|
| **LOGNW** | 0.0022 | 0.0010 | 2.19 | 0.031 ** |
| **TENURE** | -0.0003 | 0.0001 | -2.35 | 0.021 ** |
| **SOB** | -0.0002 | 0.0005 | -0.35 | 0.725 |
| **IOB** | 0.0013 | 0.0008 | 1.58 | 0.118 |
| **DUALITY** | 0.0046 | 0.0030 | 1.55 | 0.125 |
| **LEVERAGE** | -0.0005 | 0.0008 | -0.66 | 0.508 |
| **MTB** | 0.0004 | 0.0001 | 2.63 | 0.010** |
| **LOGASSET** | 0.0064 | 0.0008 | 8.30 | 0.000*** |
| **CONS** | 0.0424 | 0.01147 | 3.69 | 0.000 |
| **F-statistic (8, 91)** | | | 18.60 | |
| **Prob. F-statistic** | | | 0.0000 | |
| **R-squared** | | | 0.6205 | |
| **Adj R-squared** | | | 0.5871 | |

**Note:** ** if $p \leq 0.05$, *** if $p \leq 0.01$ signifies the significant level at 5% and 1% correspondingly.

LOGNW is natural logarithm ofCEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in external company. Other activities tie is active joint membership between CEO and directors in the nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long term debt and short term debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

From the Table 4.10, it can be observed that two predictor variables indicated a significant relationship with sales growth in the models which are: LOGNW and TENURE.

Initially, CEO's networks are positively related to sales growth wherein a positive coefficient of 0.0022 with the p-value in a significant pattern. Such result suggests that a better connectedness CEO tend to add value to sales performance. Thus, the third hypothesis is verified in this study and it established proof to reveal CEO's networks are positively related to sales growth in Malaysia listed companies.

However, the result also suggests that CEO tenure is negatively correlated with sales growth by way of the coefficient up to -0.0003. The correlation also valid in control variables where there is a positive relationship between market to book ratio and firm size with sales growth given the coefficient to these variables are 0.0004 and 0.0064 respectively. It implies that companies with high-growing and large size more likely to experience positive sales growth. In general, the high adjusted R-squared value of 0.5871 indicates that the study is fairly conducted and sales performance is positively linked to CEO's networks in a significant pattern. However, such R-squared value is very different from previous study which at the 0.10 level (Kirchmaier & Stathopoulos, 2008) and the main reasons perhaps owing to this study only evaluates 100 companies sample data and the difference in the site setting.

**ii. Return on Assets**

In the next step of this phase, this study follows agency theory by conducts another test to justify the consequence of networks on return on assets. However, given the heteroskedasticity issue in this model, this study conducts a robustness check to test for standard errors. Often, a case where robust prediction ought to be examined if there is a significant doubt of heteroskedasticity. A simple way (Tofallis, 2008) is to relate least squares to standard errors as this eases the impact of huge amount in the dependent variable better than ordinary least squares.

Table 4.11

*Robust Regression Result: Phase 2 - CEO's Networks and Return on Assets.*

| ROA | Coefficient | Std. Error | t-value | Sig. |
|---|---|---|---|---|
| **LOGNW** | -0.0049 | 0.0072 | -0.68 | 0.498 |
| **TENURE** | 0.0003 | 0.0007 | 0.45 | 0.655 |
| **SOB** | -0.0021 | 0.0025 | -0.86 | 0.390 |
| **IOB** | -0.0039 | 0.0052 | -0.74 | 0.460 |
| **DUALITY** | 0.0010 | 0.0159 | 0.06 | 0.949 |
| **LEVERAGE** | -0.0293 | 0.0109 | -2.68 | 0.009*** |
| **MTB** | 0.0098 | 0.0030 | 3.23 | 0.002*** |
| **LOGASSET** | -0.0110 | 0.0066 | -1.67 | 0.097 |
| **CONS** | 0.2776 | 0.1076 | 2.58 | 0.011 |
| **F-statistic (8, 91)** | | | 4.59 | |
| **Prob. F-statistic** | | | 0.0001 | |
| **R-squared** | | | 0.5203 | |
| **Adj R-squared** | | | 0.0742 | |

**Note:*** if $p \leq 0.01$ signifies the significant level at 1%.

LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short term-debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

From the Table 4.11, the robustness result is almost similar to linear regression result where none of the independent variables was significant with return on assets. Such result is expected due to the theoretical weaknesses in the model because of possible endogeneity problem among return on assets and the networks that considerable to the extent unable be solved in this model. As mentioned, if using the return on assets model, it implies this study simply consider one direction of relationship where the networks influence the financial performance variables as the only real direction. Although this study hypothesizes that the networks drive financial performance such as return on assets, alternatively there is also a proposition suggests the performance be capable to shape the networks. On the whole, the R-squared value of 0.5203 is somewhat higher than the result in previous study which is around 0.32 (Kirchmaier & Stathopoulos, 2008). Again, the underlying reasons maybe as a consequence of difference in sample size and the setting of sites.

**iv. Two Stage Regression of Return on Assets Model**

To examine the suspected endogeneity issue, this study applies the suggestions of Fich and Shivdasani (2006) to testify such 'inverse' connection as the robustness check. Hence, this study develops an equations system and test a two-stage least square regression which is robustness model of return on assets with the fitted value of LOGNW to analysis the relationship in the networking and performance.

Table 4.12

*Two-Stage Regression Result (First Model): Phase 2 – Return on Assets and CEO's Networks.*

| LOGNW | Coefficieut | Std. Error | t-value | Sig. |
|---|---|---|---|---|
| **ROA** | -0.6249 | 1.1856 | -0.53 | 0.599 |
| **TENURE** | 0.0272 | 0.0107 | 2.54 | 0.013*** |
| **SOB** | -0.1038 | 0.0467 | 2.22 | 0.029** |
| **IOB** | -0.0819 | 0.0826 | -0.99 | 0.324 |
| **DUALITY** | -0.0798 | 0.3053 | -0.26 | 0.794 |
| **LEVERAGE** | -0.0205 | 0.0914 | -0.22 | 0.823 |
| **MTB** | -0.0070 | 0.0192 | -0.37 | 0.715 |
| **LOGASSET** | 0.2726 | 0.0758 | 3.60 | 0.001*** |
| **CONS** | -3.7078 | 1.1732 | -3.16 | 0.002 |
| **F-statistic (8, 91)** | | | 5.56 | |
| **Prob. F-statistic** | | | 0.0000 | |
| **R-squared** | | | 0.3282 | |
| **Adj R-squared** | | | 0.2691 | |

**Note:**** if $p \leq 0.05$, *** if $p \leq 0.01$ signifies the significant level at 5% and 1% correspondingly.

LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short term-debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.

From the Table 4.12, the first model of two-stage regression is initially applying the ROA as the new independent variable in CEO's networks model of phase 1 to test the inverse relationship between CEO's networks and return on assets. However, there has no relationship exist in the inverse test of return on assets and CEO's networks. On the whole, the adjusted R-squared value of 0.2691 indicates that the study is fairly performed.



Table 4.13

*Two-Stage Regression Result (Second Model): Phase 2 – Fitted Value of CEO's Networks and Return on Assets.*

| ROA | Coefficient | Std. Error | z-value | Sig. |
|---|---|---|---|---|
| **LOGNW^** | -0.0030 | 0.0248 | -0.12 | 0.905 |
| **LEVERAGE** | -0.0301 | 0.0071 | -4.25 | 0.000*** |
| **MTB** | 0.0100 | 0.0014 | 7.27 | 0.000*** |
| **LOGASSET** | -0.0130 | 0.0097 | -1.35 | 0.178 |
| **CONS** | 0.2736 | 0.1261 | 2.17 | 0.030 |
| **Wald chi2 (4)** | | | 105.45 | |
| **Prob.> chi2** | | | 0.0000 | |

| | |
|---|---|
| **R-squared** | 0.5139 |
| **RootMSE** | 0.0713 |

| | |
|---|---|
| **Instrumented:** | **LOGNW** |
| **Instruments:** | **TENURE SOB IOB DUALITY** |

| | |
|---|---|
| **Tests of Endogeneity:** | Ho: variables are exogenous |
| **Durbin (score) chi2(1):** | 0.005217 (p = 0.9424) |
| **Wu-Hausman F(1,94):** | 0.004904 (p = 0.9443) |

**Note:*** if $p \leq 0.01$ signifies the significant level at 1%.

LOGNW is natural logarithm of CEO's networks which is the total connection from current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie is existing employment between CEO and directors in the external company. Previous engagement tie is prior employment between CEO and directors in the external company. Other activities tie is active joint membership between CEO and directors in nonprofessional body. Education tie is the same alumni of CEO and directors with interval of graduation year not more than two years; LOGSG is natural logarithm of sales growth current year sales minus last year sales, then divided by last year sales; ROA is net income to total assets; TENURE is number of years CEO held the position in particular company; SOB is number of director in the board; IOB is number of independent directors serve on the board; Duality is CEO or chairman duality, 1 if the CEO is chairman, 0 otherwise; LEVERAGE is ratio of long-term debt and short term-debts to total equity; MTB is market capitalization to company book value market to book ratio; LOGASSET is natural logarithm of total assets.



In the second model of two-stage regression analysis, it is robustness model of ROA with the fitted value of LOGNW to analysis the linkage between CEO's networks and financial performance. In order to constantly assess this model, it is needed to specify the instrumental variables, a new variable that is unrelated to error terms however connected to the instrumented variable, LOGNW. Accordingly, the corporate governance measures such as TENURE, SOB, IOO and DUALITY were used to instruct the fitted value of the instrumented variable, LOGNW. Using the two-stage regression function in Stata software, the result in above indicate that fitted value of CEO's networking LOGNW^ is remained insignificant to ROA and the

endogeneity test indicate the variables are exogenous. Thus, this result suggests it is proper to follow the test in linear regression.

### 4.5 Result Discussions

#### 4.5.1 Phase 1 Model - Determinants of CEO's Networks

As regards to hypothesis 1, it is observed from the result indicates that CEOs with the longer tenure is positively related with her connectedness. This result is in line to Nguyen-Dang (2012) have observed a positive correlation in the European context, and it is reasonable to consider that CEOs in Malaysian companies would form powerful base of social influences across time to gain social support and safeguard against turnover from their networks. Also, Allgood and Farrell (2003) have documented that CEO with longer tenure has more heterogeneity and better match to the company. In overall, these results are in line with social networks theory suggests the connectedness of CEOs as driven to the organization change in CEO's selection process. Thus, hypothesis I is supported by the study.

In addition, there is evidence reveals that large boards from large companies, symbolized via a great size of board, are keenly seeking for better-connected CEOs in their nomination process. The boards value deeply of the sound information flow, expertise exchange and superior innovation capabilities of better-connectedness executives, and keenly choosing them as CEOs. According to Yermack (1996) who observes large boards are likely to embed and link to proper CEOs such as equipped with better connection background. As predicted, this study also examines a significant

positive relationship in the CEO's networks and board size. Also, Dalto et al. (1999) have found that large boards also facilitate for rich connections and plentiful beneficial interlocking among top executives and directors. Similarly, Brown, Lee, Gao and Stathopoulos (2012) in their study also establish that board size appear as key corporate governance measure that shape a marginal effect to impact the networking power of CEOs.

It is consistent with the view that large companies are innately complex which call for and equipped plentiful resources. In developing countries context, Oyewale et al. (2016) further exhibit the board size act as critical measure to drive the external networking of board members thus shape the positive growth of business performance in Nigeria. Previous studies also suggest that three forms of companies might most beneficial from the features of better-connected CEO that is the companies with noteworthy growth prospect, the companies are experiencing stress of leveraged, and large companies with outsized boardroom (Adams et al., 2003; Brown et al., 2012; and Subrahmanyam, 2008). The result asserts that the companies with large board size are keen to search for better-connected CEOs.

Thus, this study indicates that the sound connectedness of CEOs is positively linked to indicators of companies and board size. But, there has no vividly proof about either high growth or high debt-leveraged companies finding better-connected CEOs. However, the result indicates that hypothesis 2 is valid in the study.

### 4.5.2 Phase 2 Model: CEO's Networks and Performance of Company

In this study, the performance of companies is rooted in term of both sales growth and return on assets. As examining the consequence of a CEO's networks on companies' sales performance, the result has established a significant positive relationship. Accordingly, this study observed empirical evidence to support hypothesis 3. Explicitly, this study found that better-connected CEOs do utilize their networks to enhance companies' performance, in term of the growth in sales outcomes. The results support that the effort of better-connected CEOs devoted to networks can add to the innovative process or to a certain extent, access to open doors that adding value to the sales process and companies' performance.

Notably, this result is opposed to the research of Kirchmaier et al (2008) which cannot establish a relationship exists in the networks of CEO and sales growth. However, such finding is in line with the later study of Fang, Francis and Hasan (2012) which suggests that the attribute of CEO networks facilitate superior innovation and shape a positive influence on sales growth. Hence, it seems that the CEO's networks shape a beneficial consequence on Malaysian listed companies' performance. This evidence is supportive to the social networks theory. Again, this study justifies the supposition of appointing better connectedness CEOs is value added to sales performance.

In contrast, at time this study scrutinizing the relationship between a CEO's networking ties on companies accounting performance in term of return on assets (ROA), the result indicates no significant relationship exist in CEO's

networking and ROA. Explicitly, this study has conducted goes further to perform robustness check and two-stage regressions with the aim to ease any heteroskedasticity and possible endogeneity problem in the model. However, none of the tests indicates significant relationship exists in CEO's networks and ROA. Hence, the results imply that hypothesis 4 is rejected.

This is an important finding, as it raises considerable doubt about the validity of agency theory assumption that predicts the CEO's networks create agency costs offset its advantages and undermine the accounting performance of companies in Malaysia. As regards with the linkage between CEO's networks and ROA, this result is inconsistent to Kirchamaier's (2008) which has observed significant and negative relationship on the UK contexts.

However, Fracassi and Tate (2012) observe that the connected board shape a lower but insignificant impact to a range of performance indicators for the US companies including ROA which fairly similar to the result of this study. Also, such result is somewhat comparable to the study of Haslindar and Fazilah (2011) concerning the networks consequence on Malaysia companies in case of family ownership also insignificantly and negatively with ROA. Prior studies also point outs the likelihood due to cultural disparities, the nature and effect of managers in agency theory not always reflected by the social context of non-western economies such as Malaysia (Mustapha & Ahmad, 2011; and Nor Zalina, 2016). For instance, the unique social context of Malaysia particularly family-owned business tend to have their relative members serve in the key management position such as CEOs

to exert their influences in business contact relationship thus diminish the operation threats and agency monitoring costs (Mustapha & Ahmad, 2011). It is true in this study given there are 34 family-owned companies in the sample of this study (Please refer to Appendix 2).

At this instant, this study merely can suppose about probable causes as regards this result. Probably a potential explanation is the study only considering top 100 listed non-financial companies performance in the sample, perhaps the result will be improved if extend the sample size to include more companies. Another reason is this study only including the large listed non-financial companies in accordance to the market capitalization; however, the small and medium companies are not included. Possibly, the inclusions of diverse size companies will benefit the findings of this study by furnish more inclusive and multivariate sample.



**4.6 Chapter Summary**

This chapter examinees and give detail about the results of the analysis consistent with the research objectives. This chapter also presents the diagnostic tests results to examine the validity of the models. Most important, the empirical results obtained from regression test were examined to justify the relationships among key variables in suggested models. As well, the results of some robustness tests were discussed. At last, it is ended with the discussions.

# CHAPTER FIVE

# CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

The initial part of this chapter offers a review of the study after that the contributions of the study. Few limitations inbuilt in the study are highlighted in later section with the suggestions in support of the future study being discussed in the final part.

## 5.2 Conclusion of Study

This study seeks to examine in the career field of CEOs whether 'who you know is more imperative than what you know', and if situation that such influenced nomination process subsists - whether it is value adding or value destroying to the companies. As well, this study aims to identify whether the connection to sound networks is key attribute the boards seek as selecting a CEO. Regrettably, the existing theoretical models only offer little direction in this aspect. Whereas severe sociologists and organizational studies frequently highlight about the positive facets of social networks, however, financial and economists' academics very much linked to the ground assume a sceptical perspective and assert that CEOs employ their networks to extort personal rents from the managed companies to the cost of owners.

To sum with, the outcome of this study in overall has established proof to the achievement of defined research objectives. Explicitly, the overview of key findings in this study has been summarising in the Table 4.14:

Table 4.14

*Objective Achievements of the Study.*

| Objective | Achievement | Hypothesis | Support |
|---|---|---|---|
| To examine the relationship between CEO tenure and the networks of CEO of Malaysian listed companies. | Achieved. | H1 | Supported. |
| To examine the relationship between board size and the networks of CEO of Malaysian listed companies. | Achieved. | H2 | Supported. |
| To examine the relationship between the networks of CEO and sales growth in Malaysian listed companies. | Achieved. | H3 | Supported. |
| To examine the relationship between the networks of CEO and return on asset in Malaysian listed companies. | Achieved. | H4 | No Supported. |



To start with, this study initially has established evidence correspond to first research objective and found that better connectednesses CEOs are developed as they are embedded and have longer tenure in the companies. Accordingly, the H1 hypothesis is being supported. It is perceived that CEO would develop social networks base across time. They would fine-tune their positions and promptly expand sound working connections with other executives of management teams, directors' board and influential external

stakeholders. When the time goes by, whereas sitting CEOs have established their influential capability and leadership support in the office, the base of social networks would then be stronger. Perhaps it is linked to the learning process of CEO in their job performance. At their early stage in tenure, CEO is inclined to learn fast and assume risks. At the time of tenure growth, a better-connected CEO is well performing in exert a positive influence on sales performance. However, such effect became evident in later tenure as well connected CEO tends to commit to an entrenched status to adapt to new beneficial networks. From the results, this study asserts that CEO tenure can shape significant influence in both CEO's networks and hence the performance which far further than an easy direct relationship.

As well, this study in achieving second research objectives has observed additional facts in support of the social networks theorists, as large companies with large board assign CEOs with better connectedness. This evidence agrees with the sociologists, who assert the favourable length of social networks in support to large companies. Hence, the H2 hypothesis also supported. It appears that board committees consider that the advantages of appointing a better-connected CEO to sit in the chair compensate the related agency costs. This fact also in line with corporate literature suggest social networks may more substance for large companies, whose described as multifaceted in their nature and required value-added from proper-built resources like strong networks to cope externalities threats.

In term of company performance, this study comes into view to be at preliminary contradictive viewpoint as it observes some evidence with respect to both theories. Explicitly, and confirm the supposition of social networks academics, the study in response to third research objective was capable to justify that a CEO's networks have a positive consequence on companies performance in their operating course. This finding supports the H3 hypothesis. The results are rooted in an inventive new measure of CEO's networks, which considers the collective amount of direct ties built by a CEO across the lifetime. It seems the networks of better connectedness CEOs be able to improve the companies' performance in term of sales growth, which in line with social network theory. This appears that CEOs employ their social power has seized better access to the networks for information exchange and innovative learning enhance the sales performance.



On the other hand, this studies as achieving the final research objective, however, unable to examine the strong relationship among CEO's networks and return on assets. Consequently, the H4 hypothesis is not supported. The results were further robust to diverse arrangements but no empirically significant, either using robustness checks or two-stage regression analysis. Perhaps one of the reason bring about this result is owing to the limitation in term of sample data. This issue will be discussed further in limitation section.

At this instant, this study can merely suggest about the better-connected CEOs adding value to companies' performance. It perhaps reasonable to presume, even if, that the values of preserving CEO's networks compensate the costs to the companies, which in line with the relation-oriented governance in the Asian economy. To sum with, the results o this study point to that follow the Popper (1959)'s suggestion of theories competition, social networks theory appears to be better suited to reflect the results. This theory is defending the supposition of CEO's networking influence over the agency theorists in Malaysia context.

### 5.3 Contributions of Study

Initially, one of the contributions in this study is describing the social integration of directors via board interlocking broadly using new inventive measures to better capture the social network coverage of an executive director, as proposed by Cohen et al. (2008), Engelberg et al. (2012), Fraccasi & Tate (2011) and Nguyen (2012). The board interlocking in previous literature was often measuring existing strong ties but weak ties and ties developed from prior connection being omitted. Accordingly, the networks of CEOs in this study are measured via the cumulative direct ties that built across her lifetime. The relationships from the network of prior employment, education alumni or other activities are evidently and explicitly described rooted in openly accessible information on career and personal backgrounds of the connected directors. It is worth to note that alumni and other activities networks also exert a significant function in Malaysian society. Such network's exposure is sufficiently wide to fairly

reflect the population of directors and to prevent unclear or too specific personal connections that are exposed to possible conflicts, inducing unnecessary noisy to generate the empirical evidence.

Next, this study also extends existing literature via examining the influence of executive director or CEO's networks to the company's performance. Explicitly, the current academic studies only furnish little light in this field. Despite the fact that sociologist and organizational studies capture about the positive dimension of network connections, yet financial and economists' academics frequently probe into the ground by suppose a suspicious standpoint and claim that CEOs utilize their personal networks to pursue personal rents and interests from the companies to the harm of owners. Thus, this study is pursuing social networks viewpoint to examine the possible value adding from social networks.



Also, this study contributes to present literature via adopting a competing theory framework to examine the construct of interest. Explicitly, two theories were used to guide this study where social network theory suggests a positive side of social networks while the agency theory predicts a negative correlation in the social networks and companies performance. Through this manner, it allows a more inclusive perspective to study the influence of CEO's networks whether value adding or value damaging to companies' performance. It is interesting to examine which theory best defend itself as finest to reflect the actual situation.

## 5.4 Limitation of Study

One of the most remarked limitations of this study is the cross-sectional design. Consequently, a definite conclusion as regards the directions of relationship in the models would far than to be easily highlighted. Therefore, the relationships of variables ought to be interpreted with caution. Perhaps a completeness causal conclusion is only to be verified from testing the models by way of longitudinal panel data.

A further inadequacy in this study is the selected sample simply focuses to top 100 non-financial listed companies in proportion to their market capitalization. Such sample is relatively small amount of the total population of listed companies in the market. Furthermore, the selected sample is focused to large market capitalized companies but ignore small and medium size companies. Hence, a study with bigger sample size is much preferable to enhance generalization and validate the findings.

Next, a limitation of this study is data gathering was confined to one site which is Malaysia. Due to the difference in the setting, the results of this study would not be applicable or fairly reflect the situation in other nations. For instance, the UK's studies have documented the consequence of CEO's networks in a reverse way due to differences of setting. A duplication of this study at other nations would facilitate better generalization of the results.

## 5.5 Recommendation for Future Researches

Drawing from the results and limitation underlined in previous sections, few recommendations are addressed by the end of this study. The existing study can be lengthened in several manners.

One of the suggestions for future studies is to the investigation at a difference and larger sample size. To this point, the procedure of assembling reliable data as regards CEO's network is rather time-consuming, thus the sample size of this study is only focus on top 100 listed companies. If with the conditions permit, the weakness of current study may be retrieved via the best use of a large and diverse sample. Even it perhaps calls for long haul doing the data collection; however, the reliable outcome is worth it.

Next, it is interested to expand the findings of this study to the other sites. Due to the disparity in the setting, the results of new research in other nations may or may not fairly reflect the situation of this study. A duplication of this study at other nations would facilitate better generalization of the results.

Lastly, a study can be extended to consider the boundary condition of social ties. This study simply measures the cumulative connections without considering the direction of social ties. A study can distinguish the networking between informal networks such as family relatives and alumni or networks developed by the professional associates to examine the relative importance of these networks.

To sum with, this study is using the measures to assess the CEO's networks effect for 100 non-financial companies in Malaysia and suggested that the companies with large board size are eagerly seeking for CEOs with an outsized social network. From it, it is observed that the CEO's networks have significant impact on the companies' performance which chiefly refers to sales growths in positive manner. However, the result did not indicate a significant relationship between the CEO's networks and return on assets. In overall, the results imply that social networks theory appears to be well-matched to reflect the situation in Malaysia context regarding the better-connected CEOs delivery value to companies' performance in the course of their social network. This theory is defending the supposition of CEO's networking influence over the agency theorists in Malaysia context. In future study, it is suggested to employ different and large sample size in same setting, or different site location in addition to considering different boundary condition of social ties.

## REFERENCES


Adams, R., & Ferreira, D. (2003). A Theory of Friendly Boards. *The Journal of Finance, 62,* 217 – 250.

Adams, R. B., Almeida, H., & Ferreira, D. (2005). Powerful CEOs and Their Impact on Corporate Performance. *The Review of Financial Studies,* 18(4), 1403-1432.

Adams, R., Hermalin, B., & Weisbach, M. (2009). The Role of Board of Directors in Corporate Governance: A Conceptual Framework and Survey. *Working Paper,* Ohio University.

Aggarwal, R., & Samwick, A. (1999). The Other Side of the Trade-off: The Impact of Risk on Executive Compensation. *Journal of Political Economy, 107,* 65-105.

Agrawal, A., & S. Chadha. (2005). Corporate Governance and Accounting Scandals. *Journal of Law and Economics,* 48, 371–406.

Ahsan Habib, (2010). Value Relevance of Alternative Accounting Performance Measures: Australian Evidence. *Accounting Research Journal, 23 (2),* 190-212.

Allgood, S., & Farrell, K. A., (2003). The Match between CEO and Firm. *The Journal of Business,* 76 (2), 317-341.

Baiman, S., & Rajan, M. V. (2002). The Role of Information and Opportunism in the Choice of Buyer-Supplier Relationships. *Journal of Accounting Research, 40(2),* 247–278.

Berle, A.A., & Means. G.C. (1932). The Modern Corporation and Private Property. *New York: Macmillan.*

Bertrand, M., & Schoar, A. (2003). Managing with Style: The Effect of Managers on Firm Policies. *Quarterly Journal of Economics, 118.*

Bliss, M.A., & Gul, F. A. (2012). Political Connection and Cost of Debt: Some Malaysian Evidence. *Journal of Banking and Finance, 36*(5), 1520–1527.

Brickley, J., Coles, J., & Linck, J. (1999). What Happens To CEOs After They Retire? New Evidence on Career Concerns, Horizon Problems, and CEO Incentives. *Journal of Financial Economics, 52,* 341–377.

Brown, R., Lee, E., Gao, N., & Stathopoulos K. (2012). What are Friends For? CEO Networks, Pay and Corporate Governance. *Corporate Governance*, 287-307.

Butler, A.W., Gurun, U.G. (2012). Educational Networks, Mutual Fund Voting Patterns, and CEO Compensation. *Review of Financial Studies.*

Burns, N., & Kedia, S. (2006). The Impact of CEO Incentives on Misreporting. *Journal of Financial Economics, 79,* 35–67.

Cai, Y., & Sevilir, M. (2012). Board Connections and M&A Transactions. *Journal of Financial Economics, 103(2),* 327-349.

Cohen, L., Frazzini, A. & Malloy, C. (2008). The Small World of Investing: Board Connections and Mutual Fund Returns. *Journal of Political Economy, 116*,951–979.

Cohen, L., Frazzini A., & Malloy, C. (2010). Sell Side School Ties. *The Journal of Finance, 65,* 1409–1437.

Coleman, J. S. (1990). Foundations of Social Theory. *The Belknap Press of Harvard*, University Cambridge MA.

Coughlan, A.T., & Schmidt R. M. (1985). Executive Compensation, Management Turnover, and Firm Performance: An Empirical Investigation. *Journal of Accounting and Economics, 7(1–3)*, 43-66.

Conyon, M. & Muldoon, M. (2006). The Small World of Corporate Boards. *Journal of Business Finance and Accounting, 33*, 1321-1343.

Dalton, D., Daily, C., Johnson, J. and Ellstrand, A. (1999) Number of Directors and Financial Performance: A Meta-Analysis. *Academy of Management Journal, 42*, 674- 686.

Dahya, J., & McConnell, J. (2007). Board composition, corporate performance and the Cadbury Committee recommendation. *Journal of Financial and Quantitative Analysis, 42*, 535–564.

Davis, J., Fama, E., & French, K. (2000). Characteristics, Covariances, and Average Returns. *The Journal of Finance, 55*, 389–406.

Engelberg, J., Gao, P., Parsons, C. (2012). Friends with Money. *Journal of Financial Economics, 103(1)*, 169-188.

Erickson, M., Hanlon, M., & Maydew, E. (2006). Is There a Link Between Executive Equity Incentives and Accounting Fraud? *Journal of Accounting Research, 44*, 113–143.

Fan, J. P. H., Wong, T. J. & Zhang, T. (2007). Politically Connected CEOs, Corporate governance, and Post-IPO Performance of China's Newly Partially Privatize Firms. *Journal of Financial Economics*, 1-31.

Fang, Y., Francis, Bill., & Hasan, I. (2012). More than Connectedness – Heterogeneity of CEO Social Network and Firm Value. *Bank of Finland Discussion Paper no. 26.* Helsinki: Bank of Finland.

Farrell, K.A., & Whidbee., D.A. (2003). Impact of Firm Performance Expectations on CEO Turnover and Replacement Decisions. *Journal of Accounting and Economics, 36 (1-3),* 165-196.

Ferhat A., Felix, M., & Wintoki, M. B. (2016). Director Networks and Informed Traders. *Journal of Accounting and Economics, 62(1),* Pages 1-23.

Ferris, S., Jagannathan, M. & Pritchard, A. C. (2003). Too Busy to Mind The Business? Monitoring by Directors with Multiple Board Appointments. *The Journal of Finance, 58 (3),* 1087–1111.

Feyen, E. (2014). Boardroom Networks and the Cross-Section of Stock Returns: Evidence from the Netherlands. *Mimeo Ahead Analytics Inc/World Bank.*

Fich, E., & Shivdasani. A. (2006). Are Busy Board Effective Monitors? *The Journal of Finance, 61,* 689-724.

Fich, E., & Shivdasani, A. (2007). Financial Fraud, Director Reputation, and Shareholder Wealth. *Journal of Financial Economics, 86,* 306–336.

Fracassi, C. (2012). Corporate Finance Policies and Social Networks. *AFA 2011 Denver Meetings Paper.*

Fracassi, C., & Tate, G. (2012). External Networking and Internal Firm Governance. *The Journal of Finance, 67,* 153–194.

Gao, S. Xu, K. & Yang, J. (2008). Managerial Ties, Absorptive Capacity, and Innovation. *Asia Pacific Journal of Management,* 25(3), 395-412.

Gomez, E.T. & Jomo, K.S. (1997). Malaysia's Political Economy: Politics, Patronage and Profits. *Cambridge University Press*, Cambridge.

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology, 91*, 481–510.

Granovetter, M. (2005). The Impact of Social Structure on Economic Outcomes. *Journal of Economic Perspectives, 19*, 33–50

Guan Y., Su L.X., Wu, D.H., & Yang, Z.F. (2016). Do School Ties Between Auditors and Client Executives Influence Audit Outcomes? *Journal of Accounting and Economics, 61 (2-3),* 506-525.

Gul, A. F. (2006) Auditors' Response to Political Connections and Cronyism in Malaysia. *Journal of Accounting and Economics, 44(5),* 931–963.

Hamid Mehran. (1995). Executive Compensation Structure, Ownership, and Firm Performance. *Journal of Financial Economics 38(2),* 163-184.

Haniffa, R. M. & Cooke, T. E. (2002). Culture, Corporate Governance and Disclosure in Malaysian Corporations. *Abacus 38*, 317-349.

Harford, J., & Li, K. (2007). Decoupling CEO Wealth and Firm Performance: The Case of Acquiring CEOs. *The Journal of Finance*, 62(2), 917-949.

Haslindar I., Fazilah, A. S. (2011). Corporate Governance Mechanisms and Performance of Public-Listed Family-Ownership in Malaysia. *International Journal of Economics and Finance, 3(1).*

Hochberg, Y., Ljungqvist, A., & Lu, Y. (2007). Whom You Know Matters: Venture Capital Networks and Investment Performance, *The Journal of Finance, 62,* 251–301.

Horton, J., Yuval M., & George S. (2012). Resources or Power? Implications of Social Networks on Compensation and Firm Performance." *Journal of Business Finance & Accounting 39*, 3–4.

Hubbard R.G., & Palia D. (1995). Executive Pay and Performance Evidence From the US Banking Industry. *Journal of Financial Economics, 39(1),* 105-130.

Hwang, B.H., & Kim, S. (2009). It Pays to Have Friends. *Journal of Financial Economics, 93,* 138-158.

John E.C., Robert W.H., & David F.L. (1999). Corporate Governance, Chief Executive Officer Compensation, and Firm Performance. Journal of Financial Economics. 51 (3), 371-406.

John, H.E., Nandu J. N., & Schloetzer, J. D. (2010). CEO Turnover and Retention Light: Retaining Former CEOs on the Board. Journal of Accounting Research, 48 (5), 1015–1047.oi.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3,* 305-360.

Katz, N., Lazer D., Arrow H., & Noshir C. (2004). Network Theory and Small Groups. *Small Group Research. 35 (3),* 307-332.

Kirchmaier, T., & K. Stathopoulos. (2008). From Fiction to Fact: The Impact of CEO Social Networks. *Discussion Paper.* Corporate Governance at LSE, 004.

Kramarz, F., & Thesmar, D. (2013). Social Networks in the Boardroom. *Journal of the European Economic Association, 11*, 780-807.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R.W. (1999). "Corporate Ownership Around the World", *The Journal of Finance, 54(2)*, 471-519.

Larcker, D. F., Eric C. S., & Wang, C.Y. (2013). Boardroom Centrality and Firm Performance. *Journal of Accounting and Economics*, 225-250.

Li, J. J. (2005). The Formation of Managerial Networks of Foreign Firms in China: The Effects of Strategic Orientations. *Asia Pacific Journal of Management, 22*, 423-444.

Liu, Y. (2010). The Impact of Networks on CEO Turnover, Appointment, and Compensation. Available at SSRN: http://ssrn.com/abstract=1573244.

Mather, Paul., & Ramsay., Alan. (2007). Do Board Characteristics Influence Impression Management through Graph Selectivity around CEO Changes? *Australian Accounting Review. 17 (42)*, 84–95.

Nam, H.J., & An, Y. (2017). The Effect of Interlocking Directors Network on Firm Value and Performance: Evidence from Korean-Listed Firms. *Global Economic Review*, 1-23.

Mustapha, M., & Ahmad, A.C. (2011). Agency theory and managerial ownership: evidence from Malaysia, *Managerial Auditing Journal, 26 (5)*, 419-436.

Neuman, W. L. (2000). Social research Methods: Qualitative and Quantitative Approaches. *Fourth Edition. London:* Allyn and Bacon.

Nguyen-Dang, B. (2012). Does the Rolodex Matter? Corporate Elite's Small World and the Effectiveness of Boards of Directors. *Management Science, 58,* 236-252.

Nor Zalina bt Yusof (2016). Context Matters: A Critique of Agency Theory in Corporate Governance Research in Emerging Countries. *International Journal of Economics and Financial Issues, 6,* 154-158.

Oyewale, I.O., Oloko, M.A., & Olweny, T (2016). Impact of Board size on the Financial Performance of the Listed Manufacturing Companies in Nigeria. *IOSR Journal of Business and Management, 18(11),* 76-83.

Oztuna, D., Elhan, A.H., & Tuccar, E. (2006). Investigation of Four Different Normality Tests in Terms of Type 1 Error Rate and Power Under Different Distributions. *Turkish Journal of Medical Sciences, 36(3),* 171–6.

Plickert, G., Ct, R., & Wellman, B. (2007). It's Not Who You Know, It's How You Know Them: Who Exchanges What With Whom? *Social Networks,* 29, 405–429.

Popper, K. R. (1959). The Logic of Discovery. London: Hutchinson.

Ranjit Kumar Paul (2006). Multicollinearity: Cause, Effects and Remedies. *Indian Agricultural Statistics Research Institute.*

Richard William. (2015). Heteroskedasticity. *University of Notre Dame.*

Robert, M. Obrien. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity, 41,* 673-690.

Rodgers, L., & Nicewander A. (1988). Thirteen Ways to Look at the Correlation Coefficient. *American Statistician, 42 (1),* 59-66.

Stephen, P. Barrows. (2012). Relationship Economics: The Social Capital Paradigm and Its Application to Business, Politics, and Other Transaction, *Review of Social Economy, 70(4)*, 516-519.

Shivaram, R., Venkatachalam M., & Kotha, S. (2002). Managerial Actions, Stock Returns, and Earnings: The Case of Business-to-Business Internet Firms. *Journal of Accounting Research, 40(2)*, 529–556.

Shivaram, R., Venkatachalam M., & Kotha, S. (2003). The Value Relevance of Network Advantages: The Case of E–Commerce Firms. *Journal of Accounting Research, 41(1)*, 135–162.

Subrahmanyam, A. (2008). Social Networks and Corporate Governance, *European Financial Management*, 14, 633–662.

Tan, W.L. (2008). Social Capital and Business Transformation in Asia. *Asian Productivity Organization*. ISBN: 92-833-7064-3.

Tofallis, C. (2008). Least Squares Percentage Regression. *Journal of Modern Applied Statistical Methods*, *7*, 526–534.

Toby Mordkoff. (2016). The Assumption(s) of Normality.

Yaniv, K., & Patatoukas, P. N. (2014). Accounting Earnings and Gross Domestic Product. *Journal of Accounting and Economics, 57*, 76-88.

Yermack, D. (1996). Higher Market Valuation of a Company with a Small Board of Directors. *Journal of Financial Economics, 40*, 185-211.

Zajac, Edward J., & Westphal, J. D. (1996). Director reputation, CEO-Board Power, and the Dynamics of Board Interlocks. *Administrative Science Quarterly 41*, 507–529.

## APPENDIX

*Appendix 1: Proportional of Companies in Sample per Industry (N=100)*

| Industry | Number of Companies | Percentage |
|---|---|---|
| **Construction** | **2** | **2%** |
| **Cousumer Products** | **12** | **12%** |
| **Hotels** | **1** | **1%** |
| **Industrial Products** | **12** | **12%** |
| **Infrastructure Project Compauy** | **4** | **4%** |
| **Plantation** | **8** | **8%** |
| **Properties** | **10** | **10%** |
| **Real Estate Investment Trust** | **4** | **4%** |
| **Technology** | **4** | **4%** |
| **Trading-Services** | **43** | **43%** |
| **TOTAL** | **100** | **100%** |

*Appendix 2: List of Top 100 Companies in the Sample of Study (N=100)*

| No | Company | Category |
|---|---|---|
| 1 | Tenaga Nasional Berhad | Government-linked |
| 2 | Sime Darby Berhad | Government-linked |
| 3 | Petronas Chemicals Group Berhad | Government-linked |
| 4 | IHH Healthcare Berhad | Private-Owned |
| 5 | Axiata Group Berhad | Private-Owned |
| 6 | Maxis Berhad | Private-Owned |
| 7 | Digi.Com Berhad | Private-Owned |
| 8 | Genting Berhad | Family-Owned |
| 9 | Petronas Gas Berhad | Government-liuked |
| 10 | Genting Malaysia Berhad | Family-Owned |
| 11 | MISC Berhad | Government-linked |

| No | Company | Category |
|---|---|---|
| 12 | IOI Corporation Berhad | Family-Owned |
| 13 | Kuala Lumpur Kepong Berhad | Family-Owned |
| 14 | Petronas Dagangan Berhad | Government-linked |
| 15 | Telekom Malaysia Berhad | Government-linked |
| 16 | Hap Seng Consolidated Berhad | Private-Owned |
| 17 | Nestle (Malaysia) Berhad | Private-Owned |
| 18 | PPB Group Berhad | Family-Owned |
| 19 | YTL Corporation Berhad | Family-Owned |
| 20 | Malaysia Airports Holdings Berhad | Government-linked |
| 21 | Astro Malaysia Holdings Berhad | Private-Owned |
| 22 | KLCC Property Holdings Berhad | Government-linked |
| 23 | Westports Holdings Berhad | Private-Owned |
| 24 | Gamuda Berhad | Private-Owned |
| 25 | British American Tobacco (Malaysia) Berhad | Private-Owned |
| 26 | IJM Corporation Berhad | Private-Owned |
| 27 | Airasia Berhad | Private-Owned |
| 28 | YTL Power International Berhad | Family-Owned |
| 29 | IOI Properties Group Berhad | Family-Owned |
| 30 | Dialog Group Berhad | Family-Owned |
| 31 | Hartalega Holdings Berhad | Family-Owned |
| 32 | S P Setia Berhad | Government-linked |
| 33 | Sunway Berhad | Family-Owned |
| 34 | Fraser & Neave Holdings Berhad | Private-Owned |
| 35 | Genting Plantations Berhad | Family-Owned |

| No | Company | Category |
|---|---|---|
| 36 | Batu Kawan Berhad | Family-Owned |
| 37 | MMC Corporation Berhad | Government-linked |
| 38 | Top Glove Corporation Berhad | Family-Owned |
| 39 | QL Resources Berhad | Family-Owned |
| 40 | UMW Holdings Berhad | Government-linked |
| 41 | Felda Global Ventures Holdings Berhad | Government-linked |
| 42 | IGB Real Estate Investment Trust | Family-Owned |
| 43 | Heineken Malaysia Berhad | Private-Owned |
| 44 | United Plantations Berhad | Private-Owned |
| 45 | Lafarge Malaysia Berhad | Private-Owned |
| 46 | Boustead Holdings Berhad | Private-Owned |
| 47 | Time Dotcom Berhad | Government-linked |
| 48 | UEM Sunrise Berhad | Government-linked |
| 49 | Malakoff Corporation Berhad | Private-Owned |
| 50 | Pavilion Real Estate Investment Trust | Private-Owned |
| 51 | Sunway Real Estate Investment Trust | Family-Owned |
| 52 | KPJ Healthcare Berhad | Private-Owned |
| 53 | Carlsberg Brewery Malaysia Berhad | Private-Owned |
| 54 | UOA Development Berhad | Family-Owned |
| 55 | Bumi Armada Berhad | Private-Owned |
| 56 | Cahya Mata Sarawak Berhad | Private-Owned |
| 57 | Pos Malaysia Berhad | Government-linked |
| 58 | Kossan Rubber Industries Berhad | Private-Owned |
| 59 | Oriental Holdings Berhad | Family-Owned |

| No | Company | Category |
|---|---|---|
| 60 | Yinson Holdings Berhad | Family-Owned |
| 61 | IGB Corporation Berhad | Family-Owned |
| 62 | Gas Malaysia Berhad | Private-Owned |
| 63 | Dutch Lady Milk Industries Berhad | Private-Owned |
| 64 | Mah Sing Group Berhad | Family-Owned |
| 65 | DRB-Hicom Berhad | Government-linked |
| 66 | Berjaya Sports Toto Berhad | Family-Owned |
| 67 | Lingkaran Trans Kota Holdings Berhad | Private-Owned |
| 68 | Aeon Co. (M) Berhad | Private-Owned |
| 69 | Malaysian Pacific Industries Berhad | Private-Owned |
| 70 | Unisem (M) Berhad | Family-Owned |
| 71 | MSM Malaysia Holdings Berhad | Government-linked |
| 72 | Bintulu Port Holdings Berhad | Government-linked |
| 73 | IJM Plantations Berhad | Private-Owned |
| 74 | Magnum Berhad | Private-Owned |
| 75 | Malaysian Resources Corporation Berhad | Government-linked |
| 76 | Tan Chong Motor Holdings Berhad | Family-Owned |
| 77 | Shangri-La Hotels (Malaysia) Berhad | Family-Owned |
| 78 | Kian Joo Can Factory Berhad | Private-Owned |
| 79 | Uchi Technologies Berhad | Family-Owned |
| 80 | TSH Resources Berhad | Family-Owned |
| 81 | Eastern & Oriental Berhad | Private-Owned |
| 82 | Selangor Properties Berhad | Private-Owned |

| No | Company | Category |
|---|---|---|
| 83 | Globetronics Technology Berhad | Family-Owned |
| 84 | Amway (Malaysia) Holdings Berhad | Private-Owned |
| 85 | Berjaya Land Berhad | Family-Owned |
| 86 | Malaysia Marine and Heavy Engineering Holdings Berhad | Government-linked |
| 87 | Star Media Group Berhad | Government-linked |
| 88 | Dayang Enterprise Holdings Berhad | Family-Owned |
| 89 | MBM Resources Berhad | Private-Owned |
| 90 | Media Prima Berhad | Government-linked |
| 91 | Mulpha International Berhad | Private-Owned |
| 92 | Parkson Holdings Berhad | Family-Owned |
| 93 | UMW Oil & Gas Corporation Berhad | Government-linked |
| 94 | Sapura Energy Berhad | Private-Owned |
| 95 | Press Metal Aluminium Holdings Berhad | Family-Owned |
| 96 | MY E.G. Services Berhad | Government-linked |
| 97 | Inari Amertron Berhad | Private-Owned |
| 98 | Eco World Development Group Berhad | Private-Owned |
| 99 | Scientex Berhad | Family-Owned |
| 100 | GD Express Carrier Berhad | Private-Owned |

*Appendix 3: CEO's Networks*

CEO's network (LGNW) is a collective measure that computing by accumulate all direct ties of the CEO has built across her lifetime. This study follows the suggestion of Fracassi and Tate (2012) to take account all forms of current engagement tie, previous engagement tie, other activity ties, and education tie. Current engagement tie denotes the connection from existing employment of minimum one common company the director and CEO is externally engaged with. Previous engagement tie denotes the connection from past employment of minimum one common company the director and CEO were externally engaged with. Other activity ties signify that the connection from joint membership of minimum one nonprofessional bodies that director and CEO together actively engaged with. Education tie indicates that the connection from same alumni of minimum one schools that director and CEO together attended with at any time, excluding the interval of graduation year more than two years.



For example, a CEO from Batu Kawan Berhad is currently served externally as director in the boardroom of Kuala Lumpur Kepong Berhad (KLK), Synthomer Pie and See Sen Chemical Berhad. Besides, he holds some level of interest in Wan Hin Investment. In prior, he started his career path as purchasing officer in KLK and served before in the broad of Asia Pacific Specialty Chemicals Ltd and Heitech Pudu Berhad. Also, he acts as President for Perak Chinese Maternity Association, and trustee of several foundations such as Yayasan KLK, Yayasan De La Salle and Tan Sri Lee Loy Seng Foundation. He was graduated as bachelor holder from London School of Economics and Political Science and Master Degree of Stanford

University. Accordingly, the networks of such CEO for each tie are computed as below:

| | Number of Ties |
|---|---|
| **Current engagement tie:** | |
| **a) Kuala Lumpur Kepong Berhad:**<br>- Tan Sri Dato' Seri Lee Oi Hian (Director)<br>- Dato Yeoh Eng Khoon (Director)<br>- Mustafa Bin Mohamad Ali (Director) | 3 |
| **b) See Sen Chemical Berhad**<br>- Dato Yeoh Eng Khoon (Director) | 1 |
| **c) Wan Hin Investment**<br>- Tan Sri Dato' Seri Lee Oi Hian (Shareholder) | 1 |
| | **5** |
| | |
| **Previous engagement tie:** | |
| **a) Synthomer Plc**<br>- Tan Sri Dato' Seri Lee Oi Hian (Director)<br>- Mustafa Bin Mohamad Ali (Director) | 2 |
| | **2** |
| | |
| **Other activity ties:** | |
| **a) Yayasan KLK**<br>- Tan Sri Dato' Seri Lee Oi Hian (Trustee)<br>- Dato Yeoh Eng Khoon (Trustee)<br>- Mustafa Bin Mohamad Ali Trustee (Trustee) | 3 |
| **b) Tan Sri Lee Loy Seng Foundation**<br>- Mustafa Bin Mohamad Ali Trustee (Trustee) | 1 |
| | **4** |

| | |
|---|---|
| **Education tie:** | |
| **a) London School of Economics and Political Science**<br>- Quah Chek Tin | 1 |
| | **1** |
| **Total Ties** | **12** |

From the table in above, the CEO has 5 current engagement ties, 2 prior engagement ties from past employment, 4 other activity ties, and 1 education tie. The ties linked with same person but different connection are duplicated and computed as well. Hence, the total networks of CEO for Batu Kawan Berhad are computed by adding up all ties in above and it is 12 connections in this case. To confine the outliner effect, this study uses natural logarithm value.